SAMSUNG

User Guide

SAMSUNG

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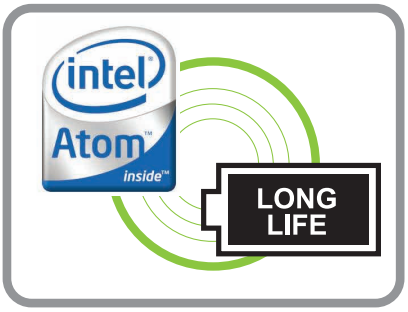
Product Features

PC in Hand

- Improved portability through its compact size and light-weight design
- Slim, Polished Design



Small but Powerful PC

- An Intel “Atom” Processor with Low Power Consumption and Low Heat
- Extended Use Time through the use of Power-Efficient Parts

Versatile and Convenient Use

- A Camera Module for Video Chatting or Conferencing (Optional)
- Wireless LAN and Bluetooth Function (Optional)
- Multi Card Slot Support (Optional)
- Easy-to-Use Keyboard

Optional items may be changed or may not be provided depending on the computer model.

Before You Start

Before reading the User Guide, first check the following information.

User Guide Information

This product is supplied with an **Installation Guide**, and a **User Guide**.

You can even more easily and conveniently use the computer by using any of the guides depending on your needs.

Installation Guide

This guide is provided so that you can conveniently refer to this guide when using the computer for the first time after purchasing it.

This document includes the computer components and the connection procedures.

User Guide

You are currently reading the User Guide. To open the file at any time, double-click the icon on the Desktop. Alternatively, select **Start > All Programs > Samsung > User Guide > User Guide**.

This document includes the computer functions, how to use the functions, and how to use the programs.

Utilizing the User Guide

❶ Be sure to read the **Safety Precautions** before using the computer.

❷ Refer to the separately supplied **Installation Guide** when installing your computer.

❸ Refer to the **User Guide** for the procedures to use the computer.

❹ Using the **Index** of the User Guide, you can easily find any information you are looking for.

❺ Using the **Glossary** of the User Guide, you can easily find meanings for technical terms.

❻ If a problem occurs, refer to the **Q & A** included in the User Guide.

- Optional items, some devices and software referred to in the User Guide may not be provided and/or changed by upgrade.
  Note that the computer environment referred in the User Guide may not be the same as your own environment.

- Images used in this User Guide may differ from actual product.
- This guide describes procedures for using both the mouse and the touchpad.
- The illustrations provided in this guide assume that your operating system is Windows XP. These illustrations are subject to change.
- The User guide supplied with this computer may vary depending on your model.

Safety Precaution Notations

Icon	Notation	Description
	Warning	Failing to follow instructions marked with this symbol, may cause personal injury and or fatality.
	Caution	Failing to follow instructions marked with this symbol, may cause slight injury to yourself or damage your property.

Text Notations

Icon	Notation	Description
	Before You Start	Content included in this section includes information required before using a function.
	Caution	Content included in this section includes information required about the function.
	Note	Content included in this section includes helpful information to use the function.
	XX	This notation represents the page number you can refer to for information about related functions or as a reference.
Start > All Programs > Samsung > User Guide > User Guide		This represents a menu path to run a program. Click the Start button and then select **All Programs > Samsung > User Guide > User Guide** in this order from the menu.

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The information in this document is subject to change without notice due to improving the performance of the product.

Samsung Electronics shall not be liable for any data loss. Please take care to avoid losing any important data and backup your data to prevent any such data loss.

Precautions for Operating System Support

If a problem occurs because of the reinstallation of other operating systems(OS) or a previous version of a OS pre-installed on this computer, or a software that does not support the OS, the company will not provide technical support, a replacement or refund, and if our service engineer visits you due to this problem, a service charge will be applied.

Performance Restrictions

❶ Online games and some games(3D,2D) may not be supported and Full HD video and some high bit rate HD video playback may be slow and stutter on this computer.

❷ There is one memory slot provided on this computer. It supports 2GB memory max. To upgrade to 2GB memory, replace the current memory with a 2GB memory module.

About the Product Capacity Representation Standard

About HDD Capacity Representation

The capacity of the storage device (HDD, SSD) of the manufacturer is calculated assuming that 1KB=1,000 Bytes.

However, the operating system (Windows) calculates the storage device capacity assuming that 1KB=1,024 Bytes, and therefore the capacity representation of the HDD in Windows is smaller than the actual capacity due to the difference in capacity calculation.
(E.g. For a 80GB HDD, Windows represents the capacity as 74.5GB, 80x1,000x1,000x1,000 byte/(1,024x1,024x1,024)byte = 74.505GB)

In addition, the capacity representation in Windows may be even smaller because some programs such as Recovery Solution may reside in a hidden area of the HDD.

About Memory Capacity Representation

The memory capacity reported in Windows is less than the actual capacity of memory.

This is because BIOS or a video adapter uses a portion of memory or claims it for further use.

(E.g. For 1GB(=1,024MB) memory installed, Windows may report the capacity as 1,022MB or less)

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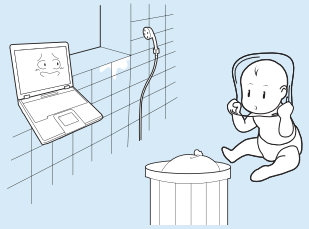
Safety Precautions

For your security and to prevent damage, please read the following safety instructions carefully. Since this is commonly applied to Samsung Computers, some figures may differ from actual product.

⚠ Warning

Failing to follow instructions marked with this symbol may cause personal injury and even fatality.

Installation Related

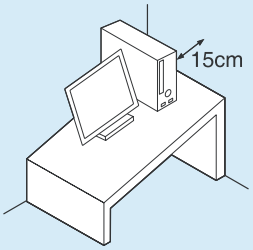


Do not install the product in places exposed to humidity such as a bathrooms.

There is a danger of electric shock. Use the product within the operating conditions specified in the Manufacturers User Guide.

Keep the plastic bags out of the reach of children.

There is a danger of suffocation.

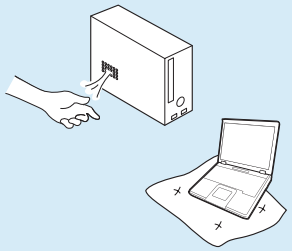


Keep a distance of 15cm or more between the computer and the wall and do not place any objects between them.

This may increase the internal temperature of the computer and may cause an injury.

Do not install the computer on a slant or a place prone to vibrations, or avoid using the computer in that location for a long time.

This increases the risk that a malfunction or damage to the product will occur.



Avoid exposing any part of your body to the heat from the computer vent or AC adapter for a long time when the computer is on.

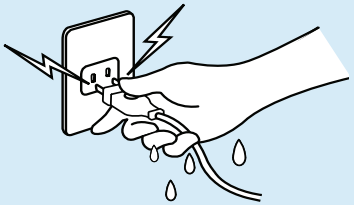
Exposing a part of your body close to the heat from the vent or AC adapter for long periods of time may cause a burn.

Avoid blocking the vent at the bottom or side of the computer when using it on a bed or cushion.

If the vent is blocked, there is a danger of damaging the computer or overheating the inside of the computer.

Power Related

The power plug and wall outlet figures may differ depending on the country specifications and the product model.

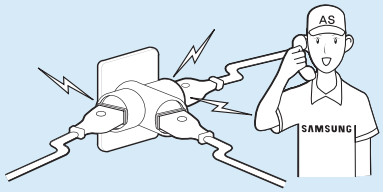


Do not touch the main plug or power cord with wet hands.

There is a danger of electric shock.

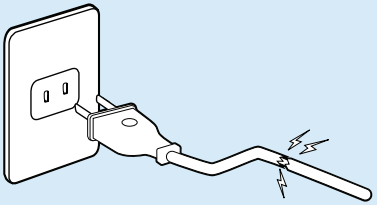
Do not exceed the standard capacity (voltage/current) of a multi-plug or power outlet extension when using it for the product.

There is a danger of electric shock or fire hazard.



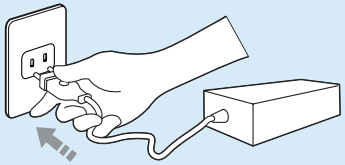
If the power cord or power outlet makes a noise, disconnect the power cord from the wall outlet and contact a service center.

There is a danger of electric shock or fire hazard.



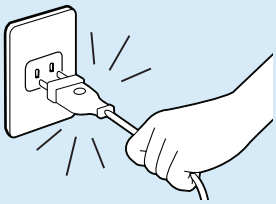
Do not use a damaged or loose main plug or power cord or power outlet.

There is a danger of electric shock or fire hazard.



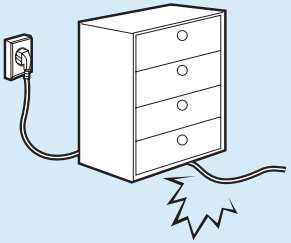
Plug the power cord firmly into the power outlet and AC adapter.

Failing to do so may cause fire hazard.



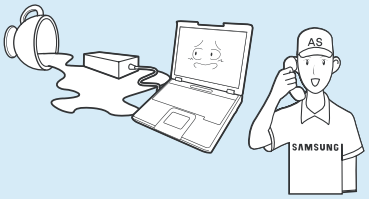
Do not unplug the power cord out by pulling the cable only.

If the cord is damaged, it may cause electric shock.



Do not bend the power cord excessively or do not place a heavy object over the power cord. It is especially important to keep the power cord out of reach of infants and pets.

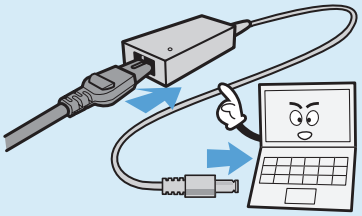
If the cord is damaged, it may cause electric shock or fire.



If water or another substance enters the power input jack, AC adapter or the computer, disconnect the power cord and contact the service center.

Damage to the device within the computer may cause electric shock or fire hazard.

AC Adapter Usage Precautions

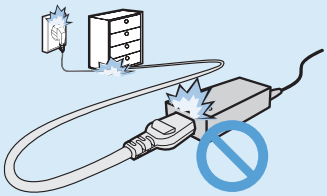


Do not place heavy objects or step onto the power cord or AC adapter to avoid damaging the power cord or AC adapter.

If the cord is damaged, there is a danger of electric shock or fire.

Use only the AC adapter supplied with the product.

Using another adapter may cause the screen to flicker.



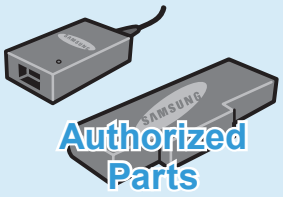
Connect the power cord to the AC adapter firmly.

Otherwise, there is a danger of fire due to an incomplete contact.

Battery Usage Related

Keep the battery out of the reach of infants and pets, as they could put the battery into their mouths.

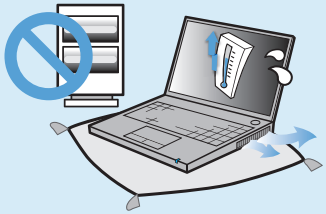
There is a danger of electric shock or choking.



Use an authorized battery and AC adapter only.

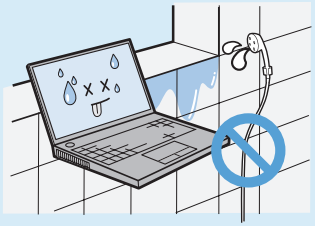
Please use an authorized battery and adapter approved by Samsung Electronics.

Unauthorized batteries and adapters may not meet the proper safety requirements and may cause problems or malfunctions and result in an explosion or fire.



Do not use the computer in a badly ventilated location such as on bedding, on a pillow or cushion, etc, and do not use it in a location such as room with floor heating as it may cause the computer to overheat.

Take care that the computer vents (on the side or the bottom) are not blocked especially in these environments. If the vents are blocked, the computer may overheat and it may cause a computer problem, or even an explosion.

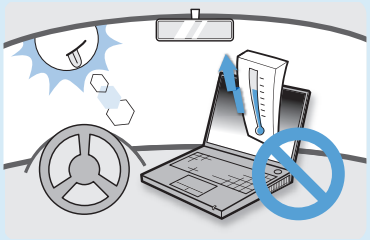


Do not use the computer in a humid location such as a bathroom or sauna.

Please use the computer within the recommended temperature and humidity range (10~35°C, 20~80% RH).

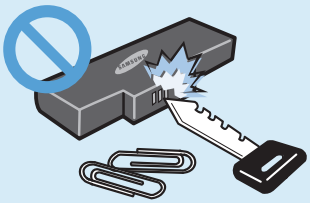
Do not close the LCD panel and put the computer into your bag to move it when it is still turned on.

If you put the computer into your bag without turning it off, the computer may overheat and there is a danger of fire. Shut the computer down properly before moving it.



Never heat the battery or put the battery into a fire. Do not put or use the battery in a hot location such as a sauna, inside a vehicle exposed to the heat, and so on.

There is a danger of an explosion or fire.

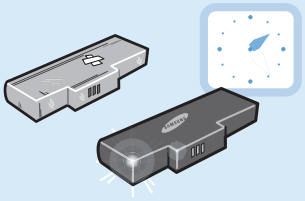


Take care not to allow metal objects such as a key or clip to touch the battery terminal (metal parts).

If a metal object touches the battery terminals, it may cause excessive current flow and it may damage the battery, or result in a fire.

If liquid leaks out of the battery or there is a funny smell coming from the battery, remove the battery from the computer and contact a service center.

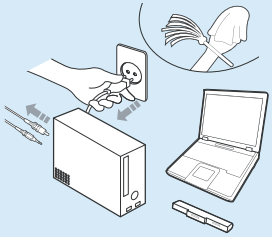
There is a danger of an explosion or fire.



To use the computer safely, replace a dead battery with a new, authorized battery.

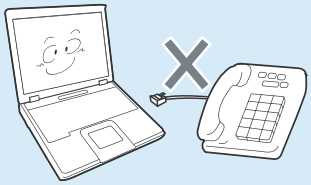
Please charge the battery fully before using the computer for the first time.

Usage Related



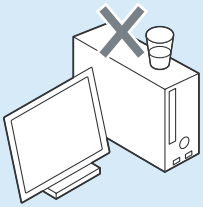
Disconnect all cables connected to the computer before cleaning it. If you are cleaning a notebook computer, remove the battery.

There is a danger of electric shock or damage to the product.



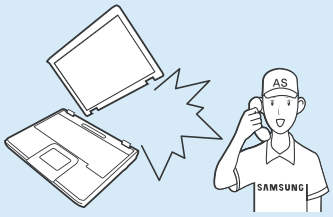
Do not connect a phone line connected to a digital phone to the modem.

There is a danger of a electric shock, fire or damage to the product.



Do not place any container filled with water or chemicals over or near the computer.

If water or chemicals enter the computer, this may cause fire or electric shock.



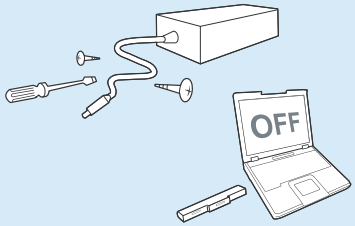
If the computer is broken or dropped, disconnect the power cord and contact a service center for a safety check.

Using a broken computer may cause electric shock or fire hazard.

Avoid direct sunlight when the computer is in an air-tight location such as inside a vehicle.

There is a danger of a fire hazard. The computer may overheat and also present opportunity to thieves.

Upgrade Related

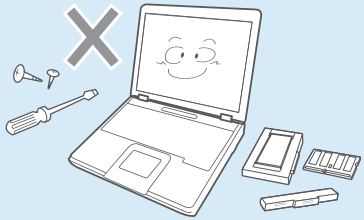


Never disassemble the power supply or AC adapter.

There is a danger of electric shock.

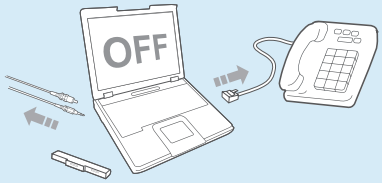
When removing the RTC (Real Time Clock) battery, keep it out of the reach of children as they could touch and/or swallow it.

There is a danger of choking. If a child has swallowed it, contact a doctor immediately.



Use only authorized parts (multi-plug, battery and memory) and never disassemble parts.

There is a danger of damaging the product, electric shock or fire hazard.

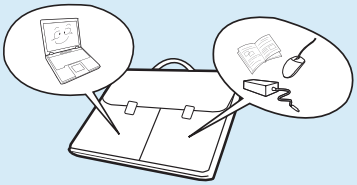


Shut down the computer and disconnect all cables before disassembling the computer. If there is a modem, disconnect the phone line. If you are disassembling a notebook computer, make sure to remove the battery.

Failing to do so, may cause electric shock.

Custody and Movement Related

Follow the instructions for the relevant location (e.g. airplane, hospital, etc.) when using a wireless communication device (wireless LAN, Bluetooth, etc.).



When carrying the notebook computer with other items, such as the adapter, mouse, books etc, take care not to press anything against the notebook computer.

If a heavy object is pressed against the notebook computer, a white spot or stain may appear on the LCD. Therefore, take care not to apply any pressure to the notebook.

In this case, place the notebook computer in a separate compartment away from the other objects.

! Caution

Failing to follow instructions marked with this symbol may cause slight injury or damage to the product.

Installation Related

Do not block the ports (holes), vents, etc. of the product and do not insert objects.

Damage to a component within the computer may cause electric shock or fire.

When using the computer with it lying on its side, place it so that the vents face upwards.

Failing to do so, may cause the internal temperature of the computer to rise and the computer to malfunction or halt.

Do not place a heavy object over the product.

This may cause a problem with the computer. In addition, the object may fall and cause injury, or damage the computer.

Battery Usage Related

Dispose of worn-out batteries properly.

- There is a danger of fire or explosion.
- The battery disposal method may differ depending on your country and region. Dispose of the used battery in an appropriate way.

Do not throw or disassemble the battery and do not put it into water.

This may cause an injury, fire or explosion.

Use only a battery authorized by Samsung Electronics.

Failing to do so may cause an explosion.

Avoid contact with metal objects such as car keys or clips when keeping or carrying a battery.

Contact with a metal may cause excessive current and a high temperature and may damage the battery or cause a fire.

Charge the battery according to the instructions in the manual.

Failing to do so, may cause an explosion or fire from damage to the product.

Do not heat the battery or expose it to heat (e.g. inside a vehicle during the summer).

There is a danger of explosion or fire.

Usage Related

Do not place a candle, light cigar, etc. over or on the product.

There is a danger of fire.

Use a wall outlet or multi-plug with a grounding part.

Failing to do so may cause an electric shock hazard.

Make sure to have the product tested by a safety service engineer after repairing the product.

Authorized Samsung Repair Centers will carry out safety checks after a repair. Using a repaired product without testing it for safety may cause an electric shock or fire.

In case of lightning, immediately turn the system off, disconnect the power cord from the wall outlet and phone line from modem. Do not use a modem or phone.

There is a danger of electric shock or fire.

Do not use your computer and AC-Adapter on your lap or soft surfaces.

If the computer temperature increases, there is a danger of burning yourself.

Connect only permitted devices to the connectors or ports of the computer.

Failing to do so, may cause electric shock and fire.

Close the LCD panel only after checking if the notebook computer is turned off.

The temperature may rise and it may cause overheating and deformation of the product.

Do not press the Eject Button while the Floppy Disk/CD-ROM drive is in operation.

You might lose data and the disk might be suddenly ejected and could cause an injury.

Take care not to drop the product while using it.

This may cause personal injury or loss of data.

Do not touch the antenna with electricity facility such as the power outlet.

There is a danger of electric shock.

When handling computer parts, follow the instructions on the manual supplied with the parts.

Failing to do so, may cause damage to the product.

If the computer emits smoke, or there is a burning smell, disconnect the power plug from the wall outlet and contact a service center. If your computer is a notebook computer, make sure to remove the battery.

There is a danger of fire.

Do not use a damaged or modified CD/Floppy Disk.
There is a danger of damaging the product or personal injury.

Do not insert your fingers into the PC Card Slot.
There is a danger of injury or electric shock.

Use recommended computer cleansing solution when cleaning the product and only use the computer when it is completely dried.
Failing to do so may cause electric shock or fire.

Emergency disk eject method using paperclip should not be used while the disk is in motion. Make sure to use the emergency disk eject method only when the Optical Disk Drive is stopped.
There is a danger of injury.

Do not place your face close to the Optical Disk Drive tray when it is operating.
There is a danger of injury due to an abrupt ejection.

Check CDs for cracks and damage prior to use.
It may damage the disc and cause disorder of device and injury of user.

Upgrade Related

Take care when touching the product or parts.
The device may be damaged or you may be injured.

Take care to handle internal components with care.
This may cause injury or damage to the product.

Make sure to close the computer cover before connecting the power after a reassembly.
There is a danger of electric shock if your body touches an internal part.

Use parts authorized by Samsung Electronics only.

Failing to do so, may cause fire or damage the product.

Never disassemble or repair the product by yourself.

There is a danger of electric shock or fire.

To connect a device that is not manufactured or authorized by Samsung Electronics, enquire at your service center before connecting the device.

There is a danger of damaging the product.

Custody and Movement Related

When moving the product, turn the power off and separate all connected cables first.

The product might be damaged or users may trip over the cables.

For long periods of not using the notebook computer, discharge the battery and preserve as it is detached.

The battery will be preserved at its best condition.

Do not operate or watch the computer while driving a vehicle.

There is a danger of a traffic accident. Please concentrate on driving.

Cautions on Preventing Data Loss (Hard Disk Management)

Take care not to damage the data on a hard disk drive.

- A hard disk drive is sensitive to external impact that an external impact may cause loss of data on the surface of the disk.
- Take extra care, because moving the computer or an impact on the computer when it is turned on may damage the data of the hard disk drive.
- The company is not liable for any loss of any data caused by a customer's careless usage or bad environmental conditions.

Causes that may damage the data of a hard disk drive and the hard disk drive itself.

- The data may be lost when an external impact is applied to the disk while disassembling or assembling the computer.
- The data may be lost when the computer is turned off or reset by a power failure while the hard disk drive is operating.
- The data may be lost and irrecoverable due to a computer virus infection.
- The data may be lost if the power is turned off while running a program.
- Moving or causing an impact to the computer while the hard disk drive is operating, may cause files to be corrupted or bad sectors on the hard disk.

To prevent data loss due to damage to the hard disk drive, please backup your data frequently.

Proper Posture During Computer Use

Maintaining a proper posture during computer use is very important to prevent physical harm.

The following instructions are about maintaining a proper posture during computer use developed through human engineering. Please read and follow them carefully when using the computer.

Otherwise, the probability of (RSI: Repetitive Strain Injury) from repeated operations may increase and serious physical harm may be caused.

The instructions in this manual have been prepared so that they can be applied within the coverage of general users.

If the user is not included in the coverage, the recommendation is to be applied according to the user's needs.

Proper Posture

Adjust the heights of desks and chairs appropriate to your height.

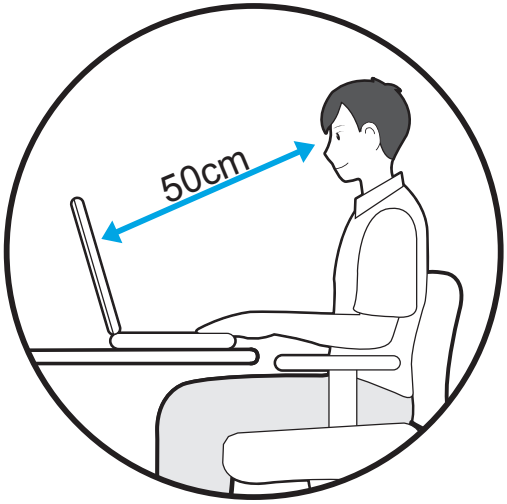
The heights are to be adjusted so that your arm forms a right angle when you place your hand over the keyboard while sitting down on a chair.

Adjust the height of chair so that your heel is comfortably placed on the floor.

- Do not use the computer while you are lying down, but only while you are sitting down.
- Do not use the computer on your lap. If the computer temperature increases, there is a danger of burning yourself.
- Work while keeping your wrist straight.
- Use a chair with a comfortable back.
- Keep the center of your leg weight not on the chair but on your feet when you are sitting on a chair.
- To use the computer while talking over the telephone, use a headset. Using the computer with the phone on your shoulder is bad for posture.
- Keep frequently used items within a comfortable work range (where you can reach them with your hands).

Eye Position

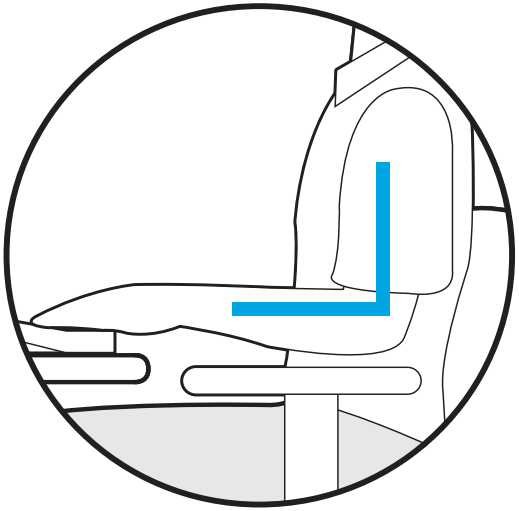
Keep the monitor or LCD away from your eyes by at least 50cm.



- Adjust the height of the monitor and the LCD screen so that its top height is equal to or lower than your eyes.
- Avoid setting the monitor and LCD excessively bright.
- Keep the monitor and LCD screen clean.
- If you wear glasses, clean them before using the computer.
- When entering contents printed on a paper into the computer, use a static paper holder so that the height of the paper is almost equal to that of the monitor.

Hand Position

Keep your arm at a right angle as shown by the figure.



- Keep the line from your elbow to your hand straight.
- Do not place your palm over the keyboard while typing.
- Do not hold the mouse with excessive force.
- Do not press the keyboard, touchpad or mouse with excessive force.
- It is recommended connecting an external keyboard and mouse when using the computer for long periods of time.

Volume Control (Headphones and Speakers)

Check your volume first to listen to music.

- Check if the volume is too loud before using headphones.
- It is not recommended using headphones for long periods of time.
- Any deviation from the equalizer default setting could cause hearing impairment.
- The default setting can be changed through software and driver updates without your intervention. Please check the equalizer default setting before first usage.

Use Time (Break Time)

- Take a break for 10 minutes or more after a 50-minute period when working for more than one hour.

Illumination

- Do not use the computer in dark locations. The illumination level for computer use must be as bright so for reading a book.
- Indirect illumination is recommended. Use a curtain to prevent reflection on the LCD screen.

Operation Condition

- Do not use the computer in hot and humid locations.
- Use the computer within the allowed temperature and humidity range specified in the User Guide.

Safety Instructions

Your system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

Always follow these instructions to help guard against personal injury and damage to your system.

Setting Up your System

- Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.
- Do not use this product near water or a heat source such as a radiator.
- Set up the system on a stable work surface.
- The product should be operated only with the type of power source indicated on the rating label.
- Ensure that the electrical outlet you are using to power your equipment is easily accessible in case of fire or short circuit.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area.
- Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.
- Ensure that the fan vents on the bottom of the casing are clear at all times. Do not place the computer on a soft surface, doing so will block the bottom vents.
- If you use an extension cord with this system, make sure that the total power rating on the products plugged into the extension cord does not exceed the extension cord power rating.

Care During Use

- Do not walk on the power cord or allow anything to rest on it.
- Do not spill anything on the system. The best way to avoid spills is to not eat or drink near your system.
- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer.
  Dispose of batteries according to the manufacturers instructions. If the CMOS battery requires replacement insure that a qualified technician performs the task.
- When the computer is turned off, a small amount of electrical current still flows through the computer.
  To avoid electrical shock, always unplug all power cables, remove the battery and modem cables from the wall outlets before cleaning the system.
- Unplug the system from the wall outlet and refer servicing to qualified personnel if:
  – The power cord or plug is damaged.
  – Liquid has been spilled into the system.
  – The system does not operate properly when the operating instructions are followed.
  – The system was dropped or the casing is damaged.
  – The system performance changes.

The Instruction On Safety Operation of the NotePC

❶ When installing and operating devices please refer to safety requirements in the user guide.

❷ Devices can be used only with the equipment specified in the technical specifications of the devices.

❸ If any smell of burning or smoke is detected from the computer the unit should be switched off and battery removed. The unit should be checked by a qualified technician before reuse.

❹ Service and repair of devices should be carried out by authorized service centers.

❺ Do not allow your portable computer to operate with the base resting directly on exposed skin for extended periods of time. The surface temperature of the base will rise during normal operation (particularly when AC Power is present). Allowing sustained contact with exposed skin can cause discomfort or eventually a burn.

Replacement Parts and Accessories

Use only replacement parts and accessories recommended by manufacturer.

To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

Do not use this product in areas classified as hazardous. Such areas include patient care areas of medical and dental facilities, oxygen rich environments, or industrial areas.

Battery Disposal

Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact the Samsung Helpline for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when disposing of old batteries.

THERE IS A RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Laser Safety

All systems equipped with CD or DVD drives comply with the appropriate safety standards, including IEC 60825-1. The laser devices in these components are classified as “Class 1 Laser Products” under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

- **Laser Safety Note:**
  Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.
- Class 1M laser radiation when operating part is open.
  Do not view directly with optical instruments.
- Class 3B invisible laser radiation when open.
  Avoid exposure to the beam.

Connect and Disconnect the AC adapter

The socket-outlet shall be installed near the equipment and shall be easily accessible.
Do not unplug the power cord out by pulling the cable only.

Power Cord Requirements

The power cord set (wall plug, cable and AC adapter plug) you received with your computer meets the requirements for use in the country where you purchased your equipment.

Power cord sets for use in other countries must meet the requirements of the country where you use the computer. For more information on power cord set requirements, contact your authorized dealer, reseller, or service provider.

General Requirements

The requirements listed below are applicable to all countries:

- The length of the power cord set must be at least 6.00 feet (1.8m) and a maximum of 9.75 feet (3.0m).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.
- The power cord set must have a minimum current capacity of 7 A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 connector, for mating with appliance inlet on the computer.

Wireless Guidance

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The RF field strength of the wireless device or devices that may be embedded in your notebook are well below all international RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed on the next page:

- Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane.
  802.11ABGN (also known as wireless Ethernet or Wifi) and Bluetooth communication devices are examples of devices that provide wireless communication.
- In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.
- Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.
- If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.
- Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.
- Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

United States of America

USA and Canada Safety Requirements and Notices

Do not touch or move antenna while the unit is transmitting or receiving.

Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.

Do not operate the radio or attempt to transmit data unless the antenna is connected; if not, the radio may be damaged.

Use in specific environments:

The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.

The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).

The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

Explosive Device Proximity Warning

Do not operate a portable transmitter (such as a wireless network device) near unshielded blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.

Use On Aircraft Caution

Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

Other Wireless Devices

Safety Notices for Other Devices in the Wireless Network: Refer to the documentation supplied with wireless Ethernet adapters or other devices in the wireless network.

The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Intel could void the user's authority to operate this device.

Unintentional Emitter per FCC Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: “Something About Interference.”

This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

Intentional emitter per FCC Part 15

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

The FCC has set a general guideline of 20 cm (8 inches) separation between the device and the body, for use of a wireless device near the body (this does not include extremities). This device should be used more than 20 cm (8 inches) from the body when wireless devices are on. The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by the FCC.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Wireless devices are not user serviceable. Do not modify them in any way.

Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

FCC Statement for Wireless LAN use:

"While installing and operating this transmitter and antenna combination the radio frequency exposure limit of 1mW/cm2 may be exceeded at distances close to the antenna installed. Therefore, the user must maintain a minimum distance of 20cm from the antenna at all times.

This device can not be colocated with another transmitter and transmitting antenna."

FCC Part 68 (If fitted with a modem device.)

This equipment compiles with part of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks : RJ11C

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or promises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

The REN is used to determine the quantity of devices which may be connected to telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by total RENs, contact the local telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment (Modem) for repair or warranty information, please contact your local distributor. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be any number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax machine, refer to your communications software user manual.

Canada

Unintentional Emitter per ICES-003

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limitesapplicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Intentional Emitter per RSS 210

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in Canada if an Industry Canada ID number is on the system label.

When using IEEE 802.11a wireless LAN, this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

The maximum allowed antenna gain for use with this device is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation.

As a general guideline, a separation of 20 cm (8 inches) between the wireless device and the body, for use of a wireless device near the body (this does not include extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on.

The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by Industry Canada.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

To prevent radio interference to licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

Telecommunications per DOC notice (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

> To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

European Union

European Union CE Marking and Compliance Notices

Products intended for sale within the European Union are marked with the Conformité Européene (CE) Marking, which indicates compliance with the applicable Directives and European standards and amendments identified below. This equipment also carries the Class 2 identifier.

The following information is only applicable to systems labeled with the CE mark CE.

European Directives

This Information Technology Equipment has been tested and found to comply with the following European directives:

- **EMC Directive 89/336/EEC with amending directives 92/31/EEC & 93/68/EEC as per**
  - EN 55022 Class B
  - EN 61000-3-2
  - EN 61000-3-3
  - EN 55024
- **Low Voltage Directive (Safety) 73/23/EEC as per EN 60950(A1/A2/A3/A4/A11)**
- **Radio and Telecom Terminal Equipment Directive 1999/5/EC as per**
  - CTR21 (if fitted with a modem device)
  - EN 300 328 (if fitted with a 2.4 GHz band embedded wireless device)
  - EN 301 489-1 (if fitted with a 2.4 GHz band embedded wireless device)
  - EN 301 489-17 (if fitted with a 2.4 GHz band embedded wireless device)
  - EN 301 893 (if fitted with a 5 GHz band embedded wireless device)

European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a Notebook computer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz band, may be present (embedded) in your notebook system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark CE with a Notified Body Registration Number and the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you notebook is well below the RF exposure limits as set by the European Commission through the R&TTE directive.

The low band 5.15 - 5.35 GHz is for indoor use only.

> See 802.11b and 802.11g restrictions for specific countries or regions within countries under the heading “European Economic Area Restrictions” below.

Translated Statements of Compliance

[English]

This product follows the provisions of the European Directive 1999/5/EC.

[Danish]

Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC

[Dutch]

Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

[Finnish]

Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

[French]

Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

[German]

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC

[Greek]

Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

[Icelandic]

Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC

[Italian]

Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

[Norwegian]

Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

[Portuguese]

Este produto cumpre com as normas da Diretiva Européia 1999/5/EC.

[Spanish]

Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

[Swedish]

Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.

European Economic Area Restrictions

Local Restriction of 802.11b/802.11g Radio Usage

[Note to integrator: The following statements on local restrictions must be published in all end-user documentation provided with the system or product incorporating the wireless product.]

Due to the fact that the frequencies used by 802.11b/802.11g wireless LAN devices may not yet be harmonized in all countries, 802.11b/802.11g products are designed for use only in specific countries or regions, and are not allowed to be operated in countries or regions other than those of designated use.

As a user of these products, you are responsible for ensuring that the products are used only in the countries or regions for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country or region of use. Any deviation from permissible settings and restrictions in the country or region of use could be an infringement of local law and may be punished as such.

The European variant is intended for use throughout the European Economic Area. However, authorization for use is further restricted in particular countries or regions within countries, as follows:

General

European standards dictate maximum radiated transmit power of 100 mW effective isotropic radiated power (EIRP) and the frequency range 2400 – 2483.5 MHz.

The low band 5.15 - 5.35 GHz is for indoor use only.

Belgium

The product may be used outdoors, but for outdoor transmissions over a distance of 300m or more, a license from the BIPT is required.

This restriction should be indicated in the manual as follows:

Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

France

For Metropolitan departments:

2.400 - 2.4835 GHz for indoor use.

2.400 - 2.454 GHz (channels 1 to 7) for outdoor use.

For Guadeloupe, Martinique, St Pierre et Miquelon, Mayotte:

2.400 - 2.4835 GHz for indoor and outdoor use.

For Reunion, Guyane:

2.400 - 2.4835 GHz for indoor use.

2.420 - 2.4835 GHz for outdoor use (channels 5 to 13)

The low band 5.15 - 5.35 GHz is for indoor use only.

European Telecommunication Information (for products fitted with EU-approved modems)

Marking by the symbol CE indicates compliance of this equipment to the Radio and Telecom Terminal Equipment Directive 1999/5/EC. Such marking is indicative that this equipment meets or exceeds the following technical standards:

CTR 21 - Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting voice telephony services) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signaling.

Although this equipment can use either loop disconnect (pulse) or DTMF (tone) signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation.

It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to public or private emergency services. DTMF signaling also provides faster call setup.

This equipment has been approved to Council Decision 98/482/EEC - “CTR 21” for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact manufacturer Technical Support.

WEEE SYMBOL INFORMATION

Correct disposal of this product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems.)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Pb

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

USA ONLY

This Perchlorate warning applies only to primary CR (Maganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.

“Perchlorate Material- special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate.”

Contains Mercury, Dispose According to Local, State or Federal Laws.

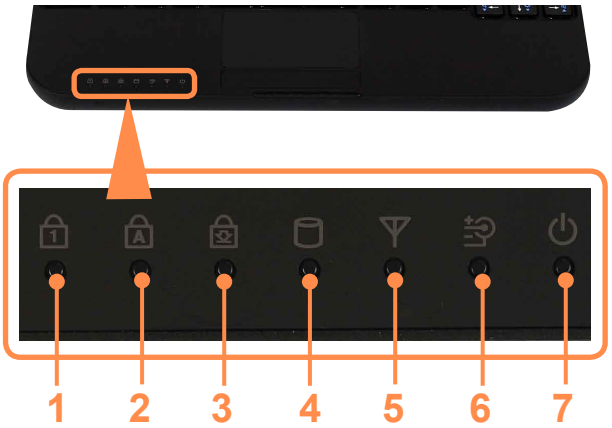
For details see lamprecycle.org, eise.org, or call 1-800-Samsung.

Front View

- Optional items may be changed or may not be provided depending on the computer model.
- The actual color and appearance of the computer may differ from the pictures used in this guide.

1	**Camera Lens (Optional)**	Using this lens, you can take still pictures and record video.
2	**Power Button**	Turns the computer on and off. 55
3	**Keyboard**	A device to enter data by pressing the keys. 58
4	**Touchpad/Touchpad Buttons**	The touchpad and touchpad buttons provide functions similar to the mouse ball and buttons. 61
5	**Multi Card Slot (Optional)**	A card slot that supports SD Card, SDHC and MMC. 65
6	**Status Indicators**	Shows the operating status of the computer. The corresponding operating LED is lit when the corresponding function operates. 51
7	**Speaker**	A device used to generate sound.
8	**LCD**	The screen images are displayed here.
9	**Microphone**	You can use the built-in microphone.

Status Indicators

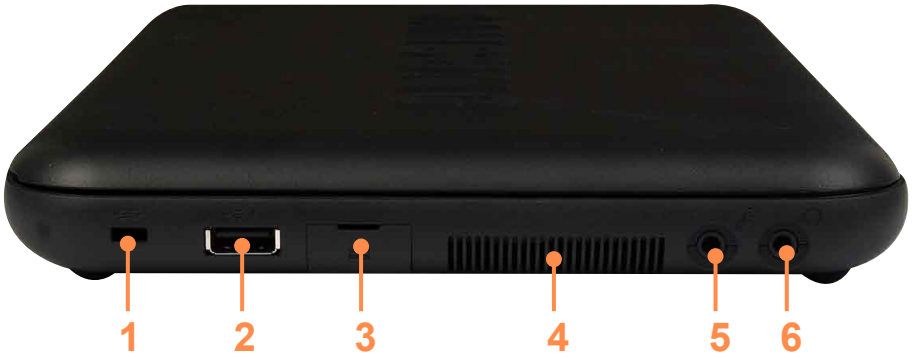


1	**Num Lock**	This turns on when the Num Lock key is pressed and numeric keypad is activated. 59
2	**Caps Lock**	This turns on when the Caps Lock key is pressed allowing capital letters to be typed without holding the Shift button down.
3	**Scroll Lock**	This turns on when the Scroll Lock key is pressed and screen scroll is locked. 59
4	**HDD/ SSD**	This turns on when the hard disk or SSD(Solid State Disk) is being accessed.
5	**Wireless LAN**	This turns on when the wireless LAN is operating.
6	**Charge Status**	This shows the power source and the battery charge status. **Green:** When the battery is fully charged or the battery is not installed. **Amber:** When the battery is being charged. **Off:** When the computer is running on battery power without being connected to AC adapter.
7	**Power**	This shows the computer operating status. **On:** When the computer is operating. **Blinks:** When the computer is in Sleep mode.

Right View

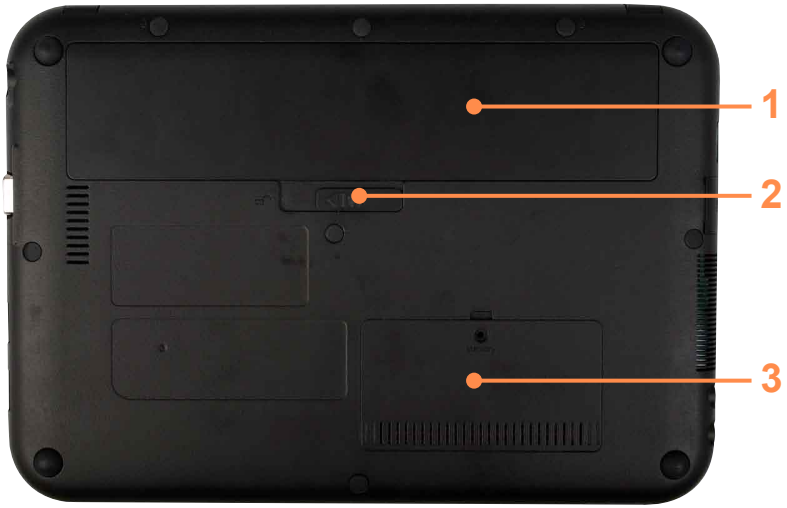
1	**USB Port**	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc.
2	**Monitor Port**	A port used to connect a monitor, TV or projector supporting a 15pin D-SUB interface. 70
3	**DC Jack**	A jack to connect the AC adapter that supplies power to the computer.

Left View



1	**Security Lock Port**	You can connect a Kensington lock to the Security Lock Port to prevent the computer from being stolen.
2	**Chargeable USB Port (Optional)**	You can connect USB devices to the USB port such as a keyboard/mouse, digital camera, etc. (Chargeable USB: You can charge USB devices through the USB port even when the computer is turned off.) ● Charging a device through a Chargeable USB takes longer than using a regular charger. ● Press the F2 key when the Samsung logo appears in the booting sequence to enter the BIOS Setup, select **Advanced > USB Charge In Sleep Mode**, and set it to **Enable**. Then you can use the Chargeable USB Port feature even in sleep mode.
3	**Wired LAN Port**	Connect the Ethernet cable to this port. 90
4	**Fan Vents**	The internal heat of the computer is emitted through these holes. If the vents are blocked the computer may overheat. Avoid blocking the vents as this may be dangerous.
5	**Microphone Jack**	A jack used to connect the microphone.
6	**Headphone Jack**	A jack used to connect the headphones.

Bottom View



1	**Battery**	This is a Lithium-Ion rechargeable battery that supplies power to the computer. 133
2	**Battery Latches**	The latch used to remove or install the battery. 134
3	**Memory Compartment Cover**	The main memory is installed inside the cover. 131

Turning the Computer On and Off

Turning the computer on

1 Install the **battery** and connect the **AC adapter**.

(Refer to the **Installation Guide**.)

2 Lift the LCD panel up.

3 Press the **Power button** to turn the computer on.

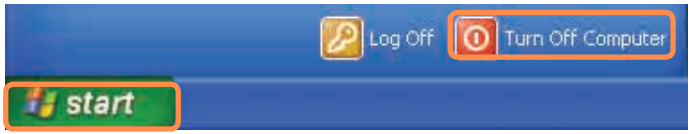
4 **Power button LED** is lit while the computer is turned on.

- When running the computer on battery power, the LCD brightness is dimmed automatically to save battery power.
  Press the **Fn** + key to increase the LCD brightness. 60
- When turning the computer on for the first time, the Register Windows screen appears. You can use the computer after registering your user information.

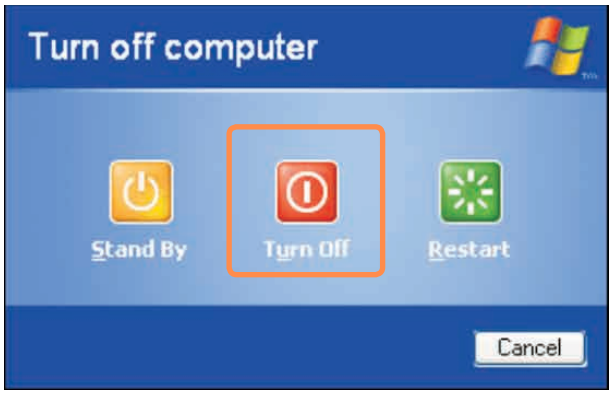
Turning the computer off

1 Click the **Start** start button on the taskbar.

2 Click **Turn Off Computer**.



3 Click **Turn Off**.



- If the computer has not turned off properly due to a system error, press **<Ctrl>+<Alt>+<Delete>**. When [Windows Task Manager] dialog box appears, click **Shut Down** > **Turn Off** to turn off the computer. Your unsaved work may be lost/damaged.
- If **<Ctrl>+<Alt>+<Delete>** keys do not operate either, press the power button for more than 4 seconds to turn off the computer. Your unsaved work may be lost/damaged. The next time you turn on your computer, a hard disk check will be performed, before Windows starts.

Chapter 2.

Using the computer

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Keyboard

Shortcut key functions and procedures are discussed in the following sections.

- The keyboard is supplied according to the corresponding country.
- The keyboard image and color may differ from the actual keyboard.

Shortcut Keys

You can use the following functions by pressing the keys below with the **Fn** key.

Fn+	Name	Function
Esc	**REST (Sleep Mode)**	Switches to Sleep mode. To wake the computer up, press the Power button.
F2	**Gauge**	Shows the remaining battery charge. You can only use this function when the Easy Display Manager program is installed.
F3	**Euro**	Enters the Euro monetary unit symbol. This key may not be provided depending on the keyboard type.
F4	**CRT/LCD**	Switches the screen output to the LCD or external monitor when an external monitor (or TV) is connected to the computer. 71
F5	**Backlight**	Turns the LCD backlight on or off.
F6	**Mute**	Mutes or cancels mute.
F7	**Samsung Magic Doctor**	System diagnosis, recovery and Internet consultation program, Samsung Magic Doctor, will be launched.

Fn+	Name	Function
	Easy SpeedUp Manager	You can select operation mode when you need maximum system performance or low-noise/low power consumption with one-click. ● **Silent:** Low-noise and low power consumption mode ● **Normal:** Normal Mode ● **Speed:** Maximum performance mode. The system operates in its maximum performance, and system resources are allocated to the currently active program with priority for maximum performance. ● For Windows XP model, Easy SpeedUp Manager function is provided in Magic Keyboard program. If you reinstall Windows XP, you have to install the Magic Keyboard program additionally using the System Software Media in order to use this function. ● If you don't want fan noise turning ON and OFF in the Silent mode, select the **Advanced** menu > **Fan Silent Mode** > **Low** in the BIOS Setup. The fan keeps turning ON and works in Low noise mode.
	Wireless LAN	Turns the wireless LAN function on or off in models with wireless LAN capability.
	Touchpad	Turns the Touchpad function on or off. When using an external mouse only, you can turn the Touchpad off.
	Num Lock	Turns the numeric keyboard on or off.
	Scroll Lock	If you turn the Scroll Lock on, you can scroll the screen up or down without changing the cursor location in some applications.

Screen Brightness Control

To adjust the LCD brightness press the **Fn** + key combination or the **Fn** + key combination.

The changed screen brightness is displayed at the center of the screen for a moment.

Volume Control

To control the volume, press the **Fn** + key combination or the **Fn** + key combination.

You can mute the sound or cancel the mute function by pressing the **Fn** + key combination.

Numeric Key

The numbers are printed in blue on the numeric keys.

If Num Lock is turned on by pressing the **Fn** + key combination, you can use the numeric keys to enter digits.

Other Function Keys

Application Key

Performs the right-click mouse function (touchpad).

Touchpad

The touchpad provides the same function as a mouse and the left and right buttons of the touchpad plays the role of the left and right buttons of a mouse.

- Use the Touchpad with your fingers. Using a sharp object may damage the Touchpad.
- If you touch the Touchpad or press the Touchpad buttons while booting up, the Windows boot time may be extended.

Touchpad
Use to move the cursor.

Touchpad Left Button
You can select or run a program using this button.

Scroll Area
Plays the role of the mouse wheel. You can scroll up and down using the Scroll Area.

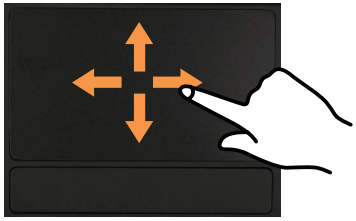
Touchpad Right Button
Plays the role of the right mouse button.

Basic Touchpad Functions

Moving the cursor on the screen

Place your finger on the touchpad slightly and move your finger.

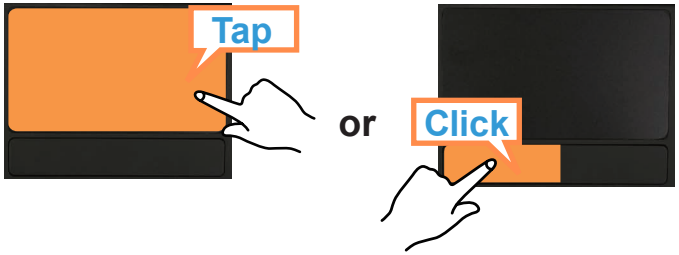
The mouse cursor will move accordingly. Move your finger in the direction you wish to move the cursor.



Click Function

Place your finger on the touchpad and tap your finger once over an item you want.

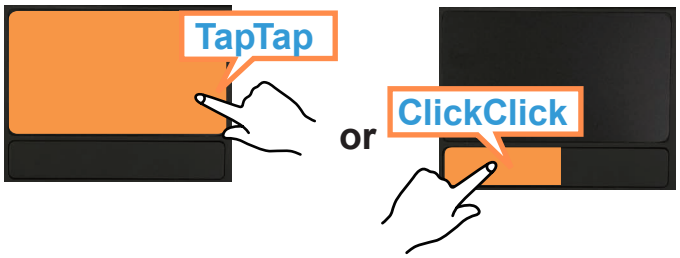
Alternatively, press the left touchpad button once.



Double-Click Function

Put your finger on the touchpad and quickly tap twice with your finger on an item you want.

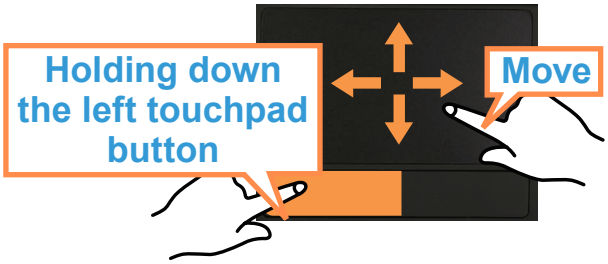
Alternatively, press the left touchpad button twice quickly.



Drag Function

Dragging refers to moving an item to another place after selecting it.

Press and hold down the left touchpad button over an item you want to drag and move the item to the new location.



Right Button Function

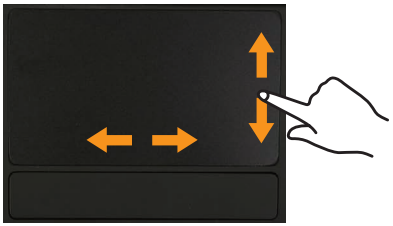
This corresponds to clicking the right mouse button.

Press the right touchpad button once. The corresponding pop-up menu appears.

Touchpad Scroll Function

The touchpad scroll area provides the mouse wheel function (scroll function).

Place your finger on the touchpad's right edge for vertical scrolling or the bottom edge for horizontal scrolling and then move your finger along the edge to scroll the screen vertically or horizontally.



Touchpad Gesture Function

You can use the following Gesture function with the touchpad.

- A scrolling function using the circle.
- Image and text zoom-in and zoom-out functions using two fingers
- A long distance cursor movement function

Chiral Scroll Function

The Chiral Scroll function enables users to scroll **long** horizontally and vertically.

If you place your finger over the **Scroll Area** at the bottom right of the touchpad and move your finger slightly, the mouse pointer changes to the circle icon .

At this time, circle clockwise or counterclockwise over the touchpad with your finger to scroll long.

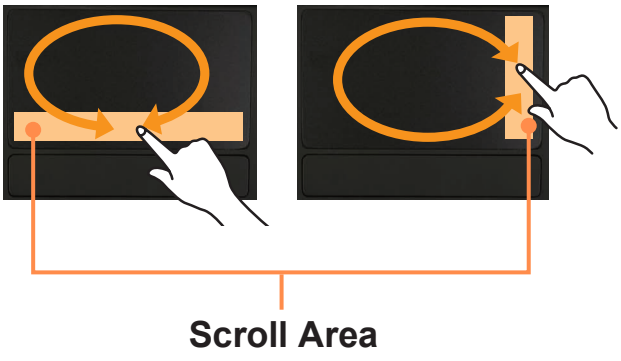
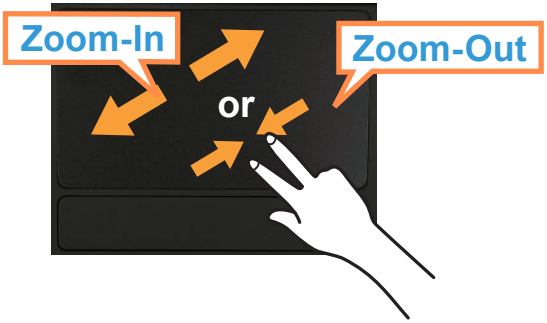


Image and Text Zoom-In and Zoom-Out (Pinch) Function

If you place two fingers over the touchpad and set them close or apart, the image or text is zoomed-in or zoomed-out.



Cursor Long-Distance Movement (Momentum/Glide) Function

You can move the cursor quickly and smoothly a long distance with a small movement over the touchpad. To use this function, configure as follows.

Click the **Start** > **Control Panel** > **Printers and Other Hardware** > **Mouse** > **Device Settings** tab > **Settings** button, select the **Momentum > Enable Momentum** option in the Touchpad Setting window, and click the **OK** button.

Disabling the Gesture Function

1. Click the **Start** > **Control Panel** > **Printers and Other Hardware** > **Mouse** > **Device Settings tab** > **Settings** button.
2. When Touchpad Settings window appears, deselect the option you want to disable in **Select an item** click the **OK** button.

Touchpad On/Off Function

If you want to use the mouse only without using the touchpad, you can turn the touchpad off.
To lock the touchpad function, press the **Fn** +

keys.

External-type CD drive (To be purchased)

This computer supports an external USB CD-ROM drive (can be additionally purchased).

Check if the interface type of the external CD-ROM drive is a USB type. For detailed specifications, refer to the catalog.

The following types of external CD drives exist.

Drive Type	Function
DVD-ROM	Reads CD/DVD.
DVD-Combo	You can read CDs and DVDs, and burn a CD.
DVD Super Multi	You can read CDs and DVDs, and burn CDs and DVDs. Supported DVD recording types include DVD±R, DVD±RW, DVD-RAM.

The appearance and color of the external-type CD drive may differ from the actual appearance and color depending on the CD drive model.

- Do not insert a cracked or scratched CD.
  Otherwise, the CD may break and damage the optical disk drive when the CD rotates at a high speed.
- When you clean a CD or DVD title, wipe with a soft cloth from inside to outside.
- Do not eject a CD when the CD operating LED is on.

Connecting the CD Drive

Connect the CD drive to the **USB port**.

Inserting and Ejecting a CD

1 Press the **Eject** button of the CD drive.

2 When the CD tray opens, insert a CD or DVD and push the tray in until it clicks.

3 Push the CD tray inward until it clicks.

The CD drive status indicator is turned on.

- A CD drive's reading and writing speed may differ depending on the condition and type of the media.
- To eject a CD when the CD drive does not work or the computer is off, place the end of a paper clip ( ) into the Emergency Hole until the CD tray is ejected.

Multi Card Slot (Optional)

Using the multi card slot, you can read and write data to a SD card, SDHC card, MMC. You can use a card as a removable disk and conveniently exchange data with digital devices such as a digital camera, digital camcorder, MP3, etc.

- You have to additionally purchase a multi card with the necessary capacity depending on your requirements.
- You can use a multi card just like any data storage device. A copyright protection function is not supported.
- Since you can lose a card when moving the computer, keep the card separately.
- Before use, remove the dummy card that was inserted to protect the slot.

Supported Cards

SD Card

SDHC Card

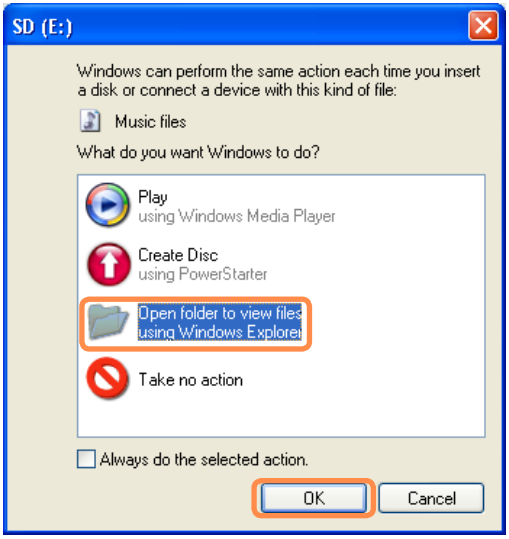
MMC

To Insert and Use a Memory Card

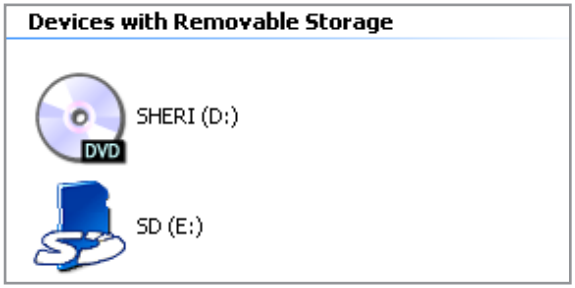
1 Insert a card into the slot according to the directions printed on the slot.

Example) SD Card

2 The card drive appears.
Click **Open folder** and **view files**.
If the window does not appear, click **Start > My Computer**.


SD (E:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Music files
What do you want Windows to do?
Play
using Windows Media Player
Create Disc
using PowerStarter
Open folder to view files
using Windows Explorer
Take no action
Always do the selected action.
OK
Cancel

3 You can save, move and delete data by double-clicking the corresponding drive.



The device name of the card drive may differ depending on your computer model.

Since you can only use the card after formatting it, if it is not formatted, format the card referring to the descriptions of “To format a memory card”. 69

Using a Mini SD snd RS-MMC

Since the above cards are too small, you cannot insert the cards into the slot directly.

Insert the card into the dedicated adapter (available from most electronic retailers) and then insert the adapter into the multi card slot.

However, depending on the adapter’s body material, some RS-MMC cards may not be recognized properly. Samsung recommend that you check the card is recognized correctly prior to purchasing.

To remove a memory card

1 Take hold of the end of the card and remove the card.

To format a memory card

When using the memory card for the first time, you must format the card before using it.

Formatting a card deletes all data saved on the card. If the card includes data, backup the data before formatting it.

1 Click **Start > My computer**.

2 Right-click over a card drive with the touchpad and select **Format**.

3 Click **Start** to the formatting.

- To use a card to exchange data with a digital device such as a digital camera, formatting the data using the digital device is recommended.
- When you try to use a card, which is formatted in the computer, in another digital device, you may have to format the card again in the device.
- You cannot format, write or delete data from a SD, or SDHC card with a write protection tab when it is in the Lock position.
- Inserting and removing a memory card repeatedly may damage the memory card.

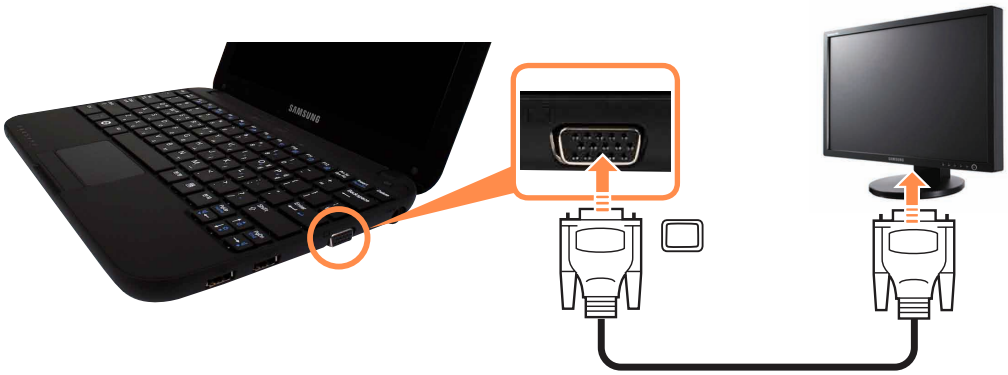
Connecting a monitor / TV

Using an external display device is useful when you are giving a presentation or watching a video or movie through your monitor.

Extra cable will be required.

Connecting to the Monitor / TV

Connect the computer to the RGB port of the monitor or TV using a monitor cable (15-pin).



Viewing Through a Monitor / TV

You can switch the display device using the shortcut key.

Switching the Display Device using the Shortcut Key

Press the **Fn** + F4 key combination once. Then the **Easy Display Manager** screen appears in which you can select a display device.

Whenever you press the F4 key while holding down the **Fn** key, the selected option is changed.

Example) Selecting LCD+CRT Dual View

- **LCD**: Notebook Screen
- **CRT**: External Monitor Screen
- **LCD+CRT Clone :** Notebook+ External Monitor Screen
- **LCD+CRT DualView:** Notebook+ External Monitor Screen in Dual View

- **What is Dual View?**
  Dual View is a function that enables you to view a computer screen over two display devices. It is convenient when you need a wide screen.

External Monitor / TV is not supported in the DOS Command Prompt window.

Using Dual View to View Extended Screen

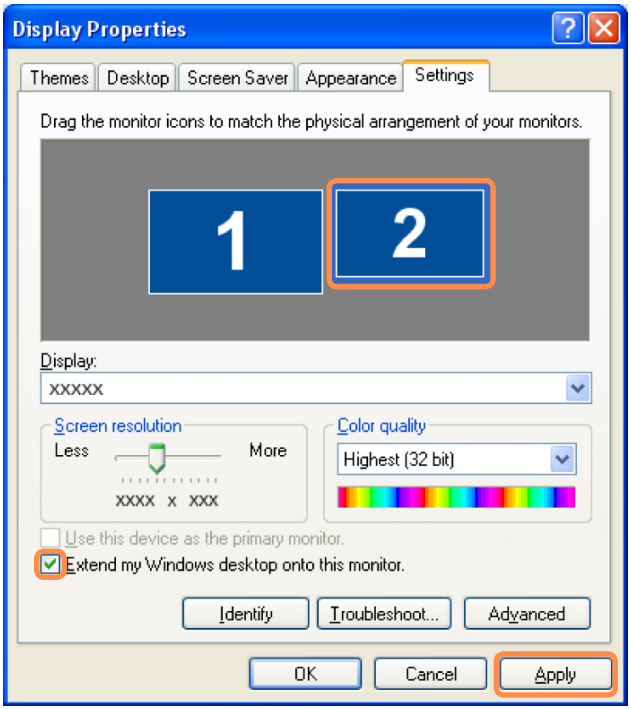
Dual View is a function that enables you to view a computer screen over two display devices. This is convenient when needing a wide screen for work.

In Dual View mode, you can select the screen resolution and color quality for each display device, as if there were two separate graphics cards.

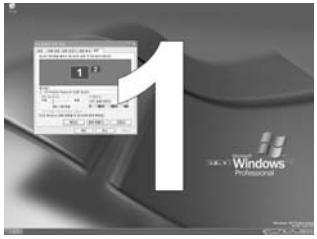
1 Connect the external display device (e.g. a monitor or a projector) to the corresponding port of the system. To connect a TV, connect the TV to the TV output port of the system.

2 Press touchpad right button on the desktop, click **Properties**, and then click the **Settings** tab.

3 Click the monitor **2** icon, select the **Extend my Windows desktop onto this monitor** check box, and then click **Apply**.



4 When the configuration is complete, click **Identify** on the left side of Troubleshoot. The primary display device(the LCD) is indicated as **1**, and the secondary display device is indicated as **2**. Now you can view the screen through two monitors.



1 : Primary

2 : Secondary

- When you use Dual View, configuring the LCD as the 'Primary' monitor is recommended.
- If the screen of the secondary display device is displayed at 1024x768 pixels, with 32bit colors, change the settings to the desired screen resolution and color quality in the [Display Properties] dialog box.

Deactivating Dual View Mode

Click the monitor **2** icon, clear the **Extend my Windows desktop onto this monitor** check box, and then click **Apply**.

To move a window between display devices in Dual View mode

Click the title bar of the window in the primary display device (1, the LCD), and drag it to the secondary display device (2). The window is moved to the secondary display device.

Adjusting the Volume

You can adjust the volume using the keyboard and the volume control program.

Adjusting the Volume using the Keyboard

Press the **Fn** + [ ] key combination or **Fn** + [ ] key combination to adjust the volume.

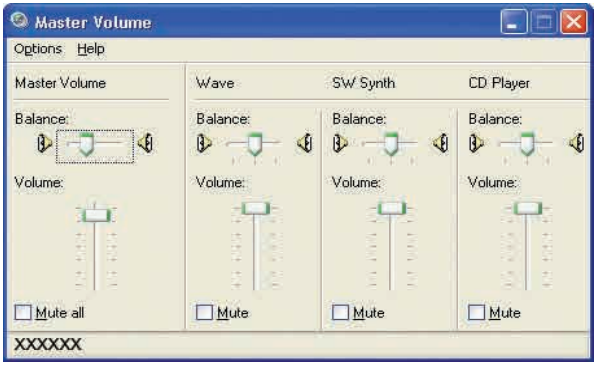
Press the **Fn** + [F6] key combination to turn the volume on or off.

Adjusting the Volume using the Volume Adjustment Program

Click the **Volume** icon on the taskbar and slide the volume control bar to adjust the volume.

Mute

For advanced volume control options, double-click the **Volume** icon, and adjust the volume level in the volume control program.



When you turn the system on, a booting noise may occur.

Using SRS

The SRS function enables you to experience more stereophonic sound by expanding the space-perception through the stereo speaker.

This function is available for specific models only.

1 Click **Start > Control Panel > Sound, Speech and Audio Devices > SRS Control Panel**.

2 Check the **Enable** checkbox and select a mode. Then you can listen to sound through the selected **SRS** effect.

- **WOW XT (Music)**: Select to listen to music.
- **TruSurround XT (Movie/Video)**: Select to watch a movie.

- The SRS function is only supported for a computer's built-in speakers.
- It is recommended uncheking the SRS option before recording, and checking it before play. It is to prevent sound distortion because of double application of SRS effect when user plays the file recorded by using stereo mix.

Using Recorders

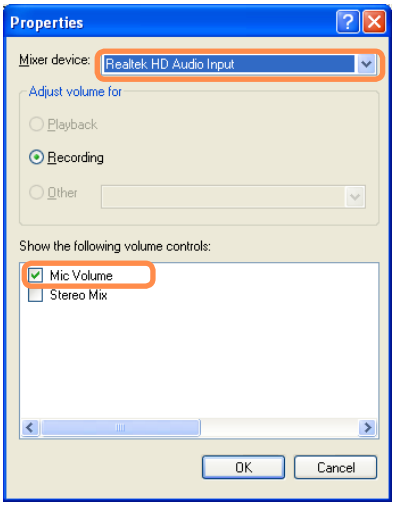
This section describes how to perform recording on a computer by using Windows Recorder.

1 Connect a microphone to the microphone jack.
You can also use the internal MIC.

2 Click **Start > Control Panel > Sounds, Speech, and Audio Devices > Sounds and Audio Devices.**

3 Click **Advanced** from Volume and then, click **Options** > **Properties**.

4 Select **Realtek HD Audio input** from the mixer device to select **Recording** from **Adjust Volume for.**



5 Select **Mic Volume** from **Show the following volume controls** and click **OK**.

6 When **Recording Control** window appears, check the **Select** checkbox. Increase the **recording** volume to increase the recording sensitivity and close the window.

7 Click **Start > All Programs > Accessories > Entertainment > Sound Recorder.**

8 Click the **Record** button to perform recording.

The default recording duration of Windows is 60 seconds. Download a dedicated recording program from the Internet to record audio data for a long time.

Chapter 3.

Using Microsoft Windows XP

About Microsoft Windows XP 78

Windows XP Screen Layout 80

Control Panel 84

The screen shots used in this chapter may differ from actual screens depending on the Windows XP version and model.

About Microsoft Windows XP

Microsoft Windows XP (hereinafter referred to as Windows) is the basic operating system for computers.

You should know how to use Windows in order to use your computer properly. Use **Tour Windows XP** as well as **Help and Support** to learn about how to use Windows.

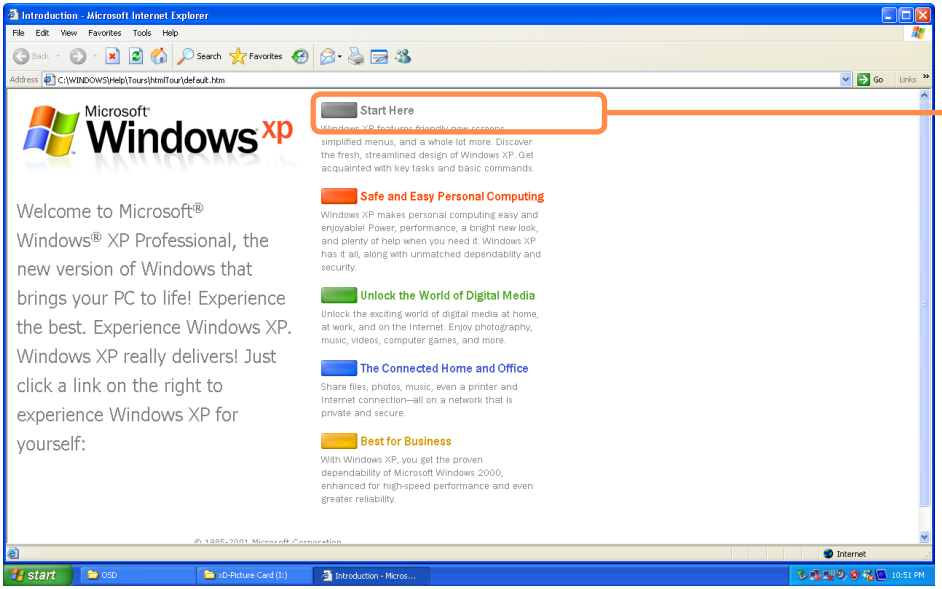
Tour Windows XP

Tour Windows XP introduces the basic features and characteristics of Windows.

Click **Start > Tour Windows XP.**
Or, click **Start > All Programs > Accessories > Tour Windows XP.**

Click the title at the right to view the description of the Windows features.

The screen layout may differ depending on the computer model and the operating system.


Introduction - Microsoft Internet Explorer
Start Here
Safe and Easy Personal Computing
Unlock the World of Digital Media
The Connected Home and Office
Best for Business
Welcome to Microsoft® Windows® XP Professional, the new version of Windows that brings your PC to life! Experience the best. Experience Windows XP. Windows XP really delivers! Just click a link on the right to experience Windows XP for yourself:

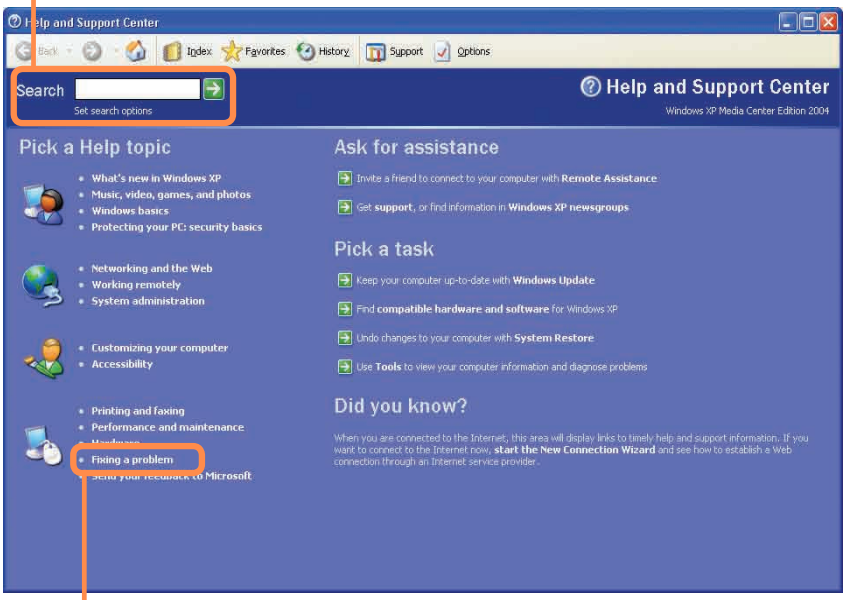
Click the title.

Help and Support

Help and Support allows you to view the features and usage of Windows. Also, it allows you to search the information you want by entering a search keyword.

Click **Start > Help and Support.**

Search: Enter a search keyword to view the Help.


Help and Support Center
Back
Index
Favorites
History
Support
Options
Search
Set search options
Help and Support Center
Windows XP Media Center Edition 2004
Pick a Help topic
What's new in Windows XP
Music, video, games, and photos
Windows basics
Protecting your PC: security basics
Networking and the Web
Working remotely
System administration
Customizing your computer
Accessibility
Printing and faxing
Performance and maintenance
Fixing a problem
Ask for assistance
Invite a friend to connect to your computer with Remote Assistance
Get support, or find information in Windows XP newsgroups
Pick a task
Keep your computer up-to-date with Windows Update
Find compatible hardware and software for Windows XP
Undo changes to your computer with System Restore
Use Tools to view your computer information and diagnose problems
Did you know?
When you are connected to the Internet, this area will display links to timely help and support information. If you want to connect to the Internet now, start the New Connection Wizard and see how to establish a Web connection through an Internet service provider.

Fixing a problem: If a problem occurs, you can get help.

Windows XP Screen Layout

Desktop

If you turn on the computer, the Desktop will appear. The Desktop is the work space (screen) of a computer and is configured as follows:

> The screen layout may differ depending on the computer model and the operating system.

Shortcut Icons
You can launch programs by clicking the shortcut icons on the Desktop.

Start Menu
The menu from which you can launch programs.

Recycle Bin
You can drop useless files and folders here.

Language Bar
Switches text input language.

Start button
Press the start button. The Start menu appears.

Taskbar
Currently running programs are displayed here.

System Tray with Clock
Shows some running program icons. Icons not being used are hidden. If you click the arrow mark on the left, you can view hidden icons.

Start Menu

The menu from which you can launch programs.

Click **Start**. The Start menu appears.
Alternatively, press the **Windows** key on the keyboard.

My Computer		Displays the contents of the hard disk, the CD-ROM drive, the network drive(s), and floppy disks. It can also be used to search and open files and folders.
Control Panel		Enables users to configure settings on the computer.
Help and Support		Provides on-line help, information on Windows and troubleshooting.
Search		Enables users to search for information in files or the Internet.
Run		Run programs or documents.

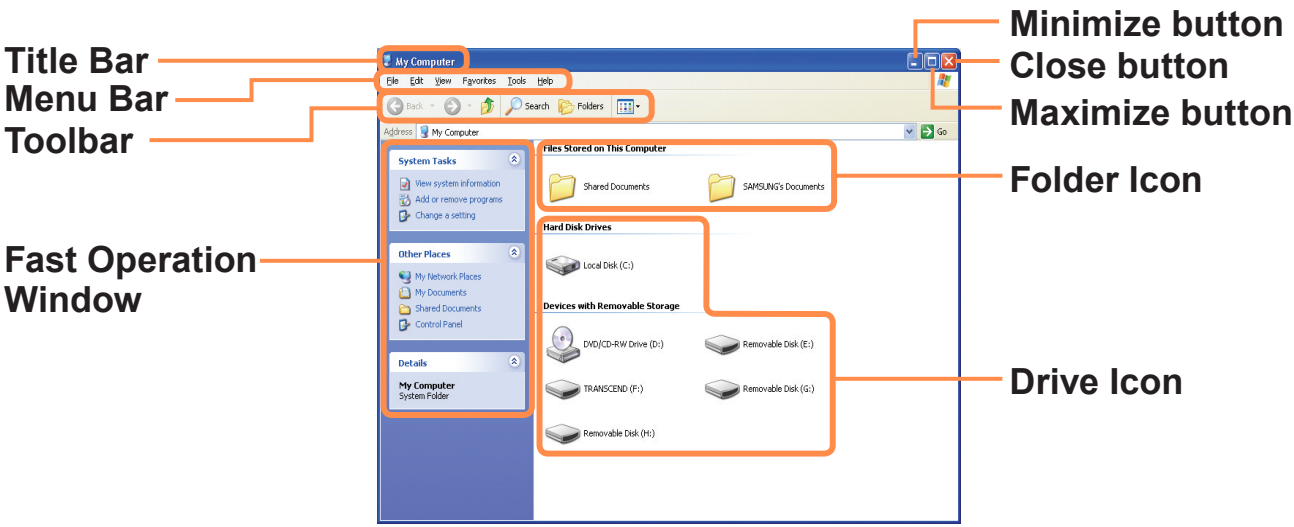
Window

A window is a basic foundation for operating your computer. For instance, a window of your computer is configured as follows:

Click **Start > My Computer.**

Displayed menus and names may be varied.

Double-click the **Local Disk**, which is a hard disk drive, to view the folders and files saved in your computer.
If any folder or file is not shown, click **Show Folder Contents**.



What is a Drive?

A drive is a storage device that can read or write data such as folders and files.

What is a Folder?

A folder is just like a cabinet that keeps files or folders. You can keep files or folders of similar kinds in a folder.

What is a File?

A file is the minimum unit of materials created by using a program and is also called data.

How to View the Entire Drive Structure

Click the folder icon from the Toolbar to view the drive structure.

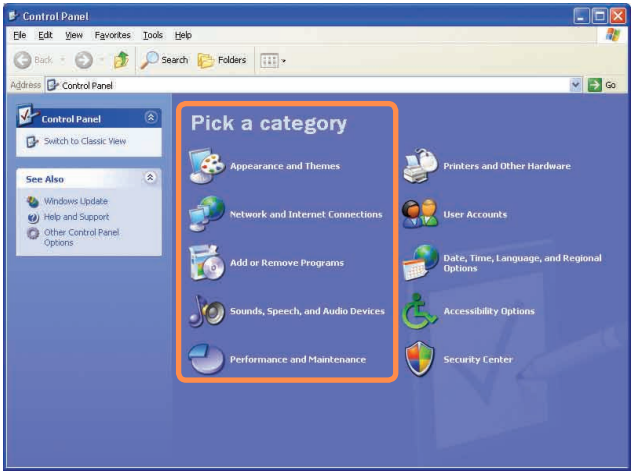
Click the icon again to return to the Fast Operation window.

Control Panel

The Control Panel has a group of tools that enable the user to configure the Windows-related settings.

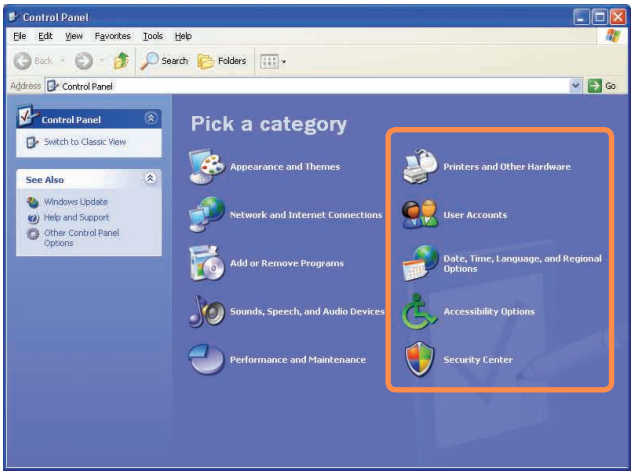
Running Control Panel

Click **Start > Control Panel.**



Appearance and Themes		Change the appearance of desktop items, apply a theme or screen saver to your computer, or customize the Start menu and Taskbar.
Network and Internet Connections		Connect to the Internet, create a home or small office network, configure network settings to work from home, or change modem, phone, and Internet settings.
Add or Remove Programs		Install or remove programs and Windows components.
Sounds, Speech, and Audio Devices		Change the entire sound scheme or individual sounds made by your computer, or configures the settings for your speakers and recording devices.
Performance and Maintenance		Schedule regular maintenance checks, increase space on your hard disk, or configure energy-saving settings.

Click **Start > Control Panel.**



Printers and Other Hardware		Change the settings for your printer, keyboard, mouse, camera, and other hardware.
User Accounts		Change user account settings, passwords, and pictures.
Date, Time, Language, and Regional Options		Change the date, time, and time zone for your computer, the language to use, and the way numbers, currencies, dates, and times are displayed.
Accessibility Options		Adjust your computer settings for vision, hearing, and mobility.
Security Center		View your current security status and access important settings to help protect your PC.

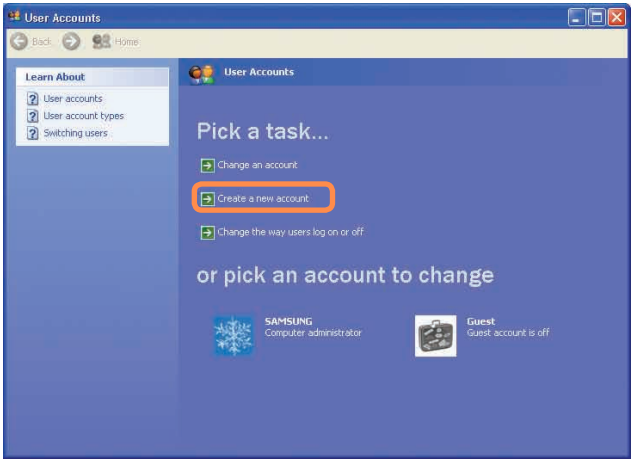
User Account

Windows XP allows to set multiple users with accounts.
This section describes how to add a user account and to switch a it.

How to Add a User Account

1 Click **Start > Control Panel.**

2 Click **User Account** and **Create a new Account** in sequence.

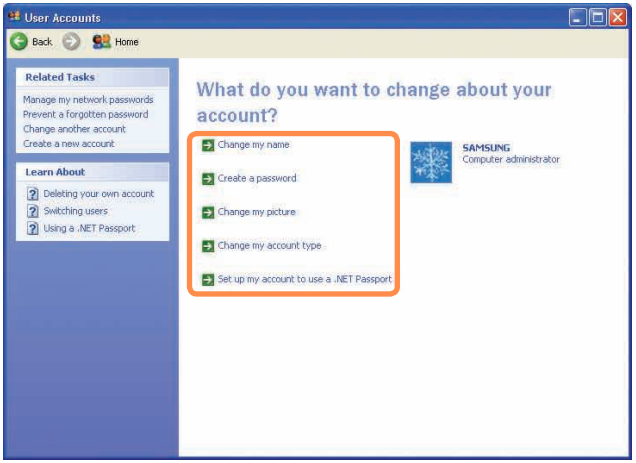


3 Enter your name and click **Next**.

4 Select an account type and click the **Create Account** button. Then, check the created account from the User Account window.

5 Click the target account and change the user account information.

You can change the account name, password, account type, and picture.



To Delete User Account

1 Click **Start > Control Panel > User Account.**

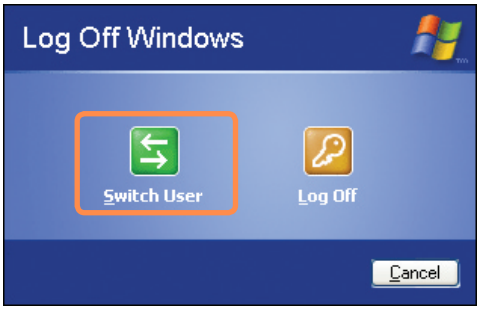
2 Select the user account to be deleted and click **Delete Account.**

The administrator account cannot be deleted. It can only be renamed or disabled.

How to Switch a User

1 Click **Start > Logoff.**

2 Click **Switch User**.



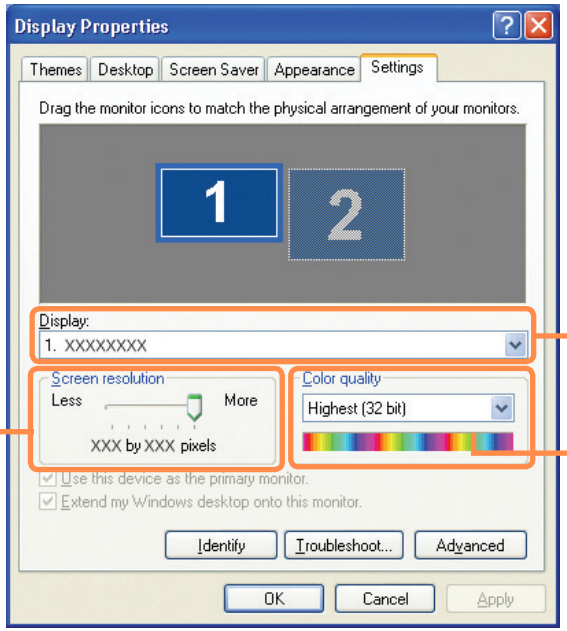
3 Click the user name to be switched from the Welcome screen. Then you can log on with a new user name.

Changing Resolution and Color

A resolution is the number of pixels displayed on the screen. If you set the resolution to a higher value, items on the screen will be displayed smaller and the screen looks wider than the pervious. As color quality gets higher, more colors can be represented.

1 Click **Start > Control Panel > Appearance and Themes > Change the screen resolution.**

2 Click **Settings** and change the resolution and color quality. Then, click **OK**.



Move the slider bar to set the resolution.

You can select a graphic chipset.

Click the pull-down menu button to select the number of colors you want.

It is recommended to set the resolution and color quality depending on the LCD type of your computer as the following:

LCD Type	Resolution	Color Quality
WSVGA	1024 x 600	highest (32-bit)

Chapter 4.

Using the Network

Wired Network 90

Wireless Network 93

Using the Easy Network Manager (Optional) 99

Wired Network

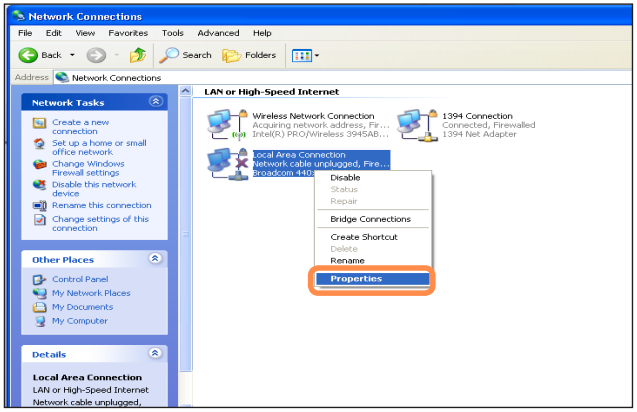
A wired network is a network environment used for a company network or broadband internet connection at home.

You can also configure the network settings using the Easy Network Manager. 99

1 Connect a LAN cable to the computer's LAN port.

2 Click **Start > Control Panel > Network and Internet Connections > Network Connection**.

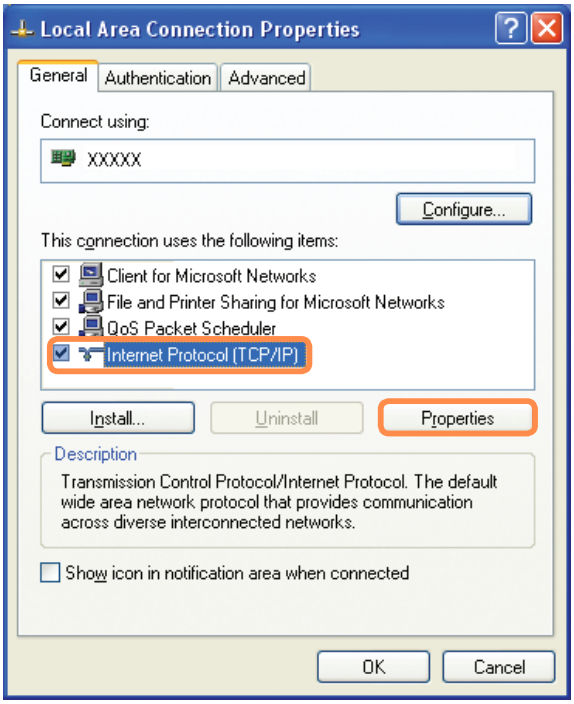
3 Select **Local Area Connection** and click the right button of the touch pad and select **Properties**.



The LAN Device name may differ depending on your computer's Network Device.

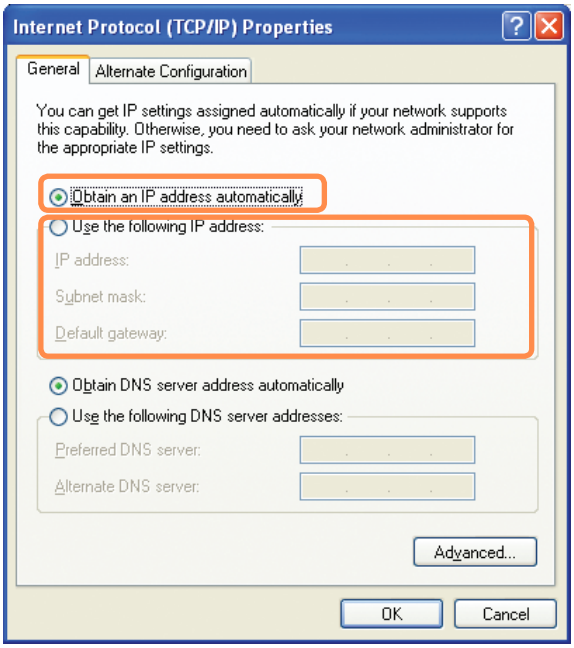
4 Click **General** tab and select a LAN driver from **Connect using:**. Select **Internet Protocol(TCP/IP)** and click **Properties**.

The displayed LAN driver may vary depending on the LAN device type. Click **Install** to add a network component as shown in the figure below: You can add a client, a service, or a protocol.



5 Configure IP settings.

Select **Obtain an IP address automatically** when using DHCP. If you use a static IP, select **Use the following IP address** and enter the values.


Internet Protocol (TCP/IP) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

If the IP of your computer is not automatically assigned, contact the network administrator.

6 If all settings are made, click **OK**. Now the network configuration is finished.

Using both DHCP and a fixed IP simultaneously

Using the **Alternate Configuration** providing by Windows XP, you can set both automatic and fixed IP addresses and then you can select to use either of them to connect to the Internet.

1. Click **Start > Control Panel > Network and Internet Connections > Network Connection > Local Area Connection** by using the right button of the touch pad and click **Properties**.

2. Select **Internet Protocol (TCP/IP)** and click **Properties**.

3. Select the **Alternate Configuration** tab, select **User configured** and fill in the fields.

4. When the setting completes, click **OK**.

Wireless Network

A wireless network allows computers to share resources or an internet connection without using LAN cables between them.

- This description is applied only to the models equipped with wireless LAN cards or devices. You can set a wireless network by using **Easy Network Manager** as well. 99

  A wireless LAN device is optional when purchasing. Click a symbol, +, from **Start > Control Panel > Performance and Maintenance > System > Hardware** Tab **> Device Manager > Network Adapter** to check the device type.

  Some of the pictures shown in this description may vary depending on the wireless LAN device.

- Press the **Fn +** key and enable the wireless LAN features to use wireless LAN. Once the wireless LAN is enabled, the wirelss LED turns on.

Types of Wireless LAN Connections

The types of wireless LAN connections are as follows. The following describes how to use the wireless LAN based on AP connections.

- **AP Connections**

  You can connect to the Internet or a computer on the network by connecting to AP on an AP-enabled network.

What is Access Point (AP)?

AP is a network device that connects wired LAN to wireless LAN and corresponds to the wireless hub of a wired network. Also, AP allows you to connect more than one computer where wireless LAN is enabled.

- **Small Office Network**

  The small office network interconnects computers where wireless LAN is enabled wirelessly and is called Peer-to-Peer (or Ad HOC). This method enables the configuration of a small office network in one computer. Then, another computer is connected to the computer wirelessly for communications.

  For more information on how to establish connections, see the information from **Start > Help and Support > Networking and Web**.

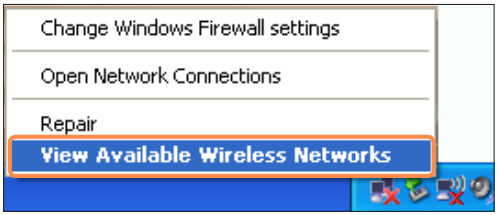
  When you use Ad-Hoc, you have to change the McAfee Firewall settings. 168

Connecting to Wireless LAN

If an AP exists near your location, you can easily connect to wireless LAN in the method provided by Windows XP.

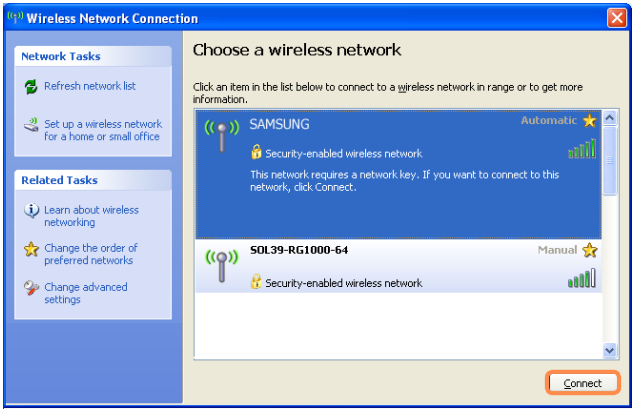
The following description is based on Windows XP Service Pack 3; thus, the pictures may vary.

1 Click the **Wireless Network Connection** icon from the Taskbar using the right button of the touch pad. Then, click **View Available Wireless Networks**.



2 Select an AP to be connected and click **Connect**.

If a network key is set in the AP, the network key input window will appear. Enter the network key in the input window and click **OK**.


Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
SAMSUNG
Automatic
Security-enabled wireless network
This network requires a network key. If you want to connect to this network, click Connect.
SOL39-RG1000-64
Manual
Security-enabled wireless network
Connect

For a network key, contact the network administrator.

3 Once **Connected to AP** is displayed, you can use a wireless network.

To check the network connections

Place the mouse on the **Wireless Network Connection** icon from the Taskbar. Then, the status will appear.

Connecting to computer-to-computer networks (peer-to-peer or ad hoc)

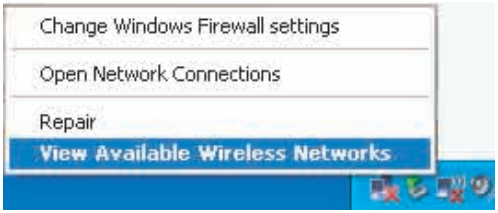
In computer-to-computer wireless networks, you can wirelessly connect 2 or more computers that have wireless LAN modules. Using this method, a computer that is not connected to the Internet can share the Internet by accessing another computer connected to the Internet.

You can connect by completing the following steps:

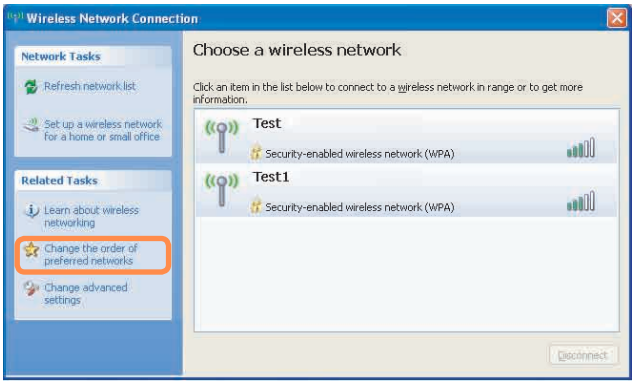
- **Step 1.** Set up a computer-to-computer network on a computer.
- **Step 2.** Connect to the configured computer from other computers.

Step 1. Setting up a computer-to-computer network

1 Right-click on the **Wireless Network Connection** icon on the taskbar, and select **View Available Wireless Networks**.



2 Click Change the order of Preferred Networks.


Wireless Network Connection
Network Tasks
Refresh network list
Set up a wireless network for a home or small office
Related Tasks
Learn about wireless networking
Change the order of preferred networks
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
Test
Security-enabled wireless network (WPA)
Test1
Security-enabled wireless network (WPA)
Disconnect

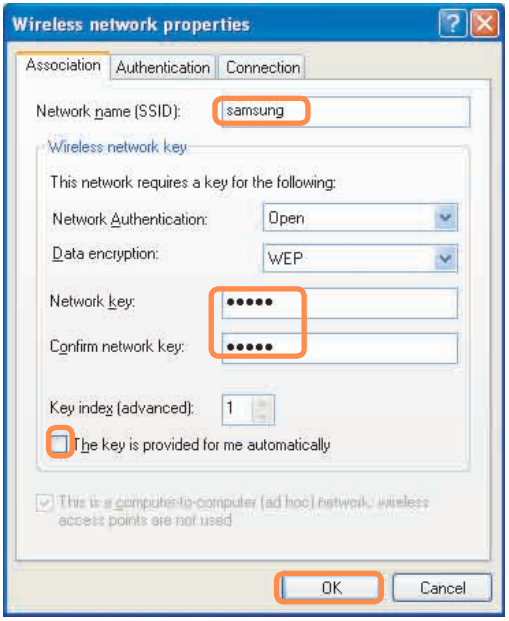
3 On the Wireless Network tab, click Advanced.

4 Clear ‘Automatically connect to non-default network’ check box, if it is selected.Select ‘Computer-to-computer (ad hoc) networks only’, and click Close.

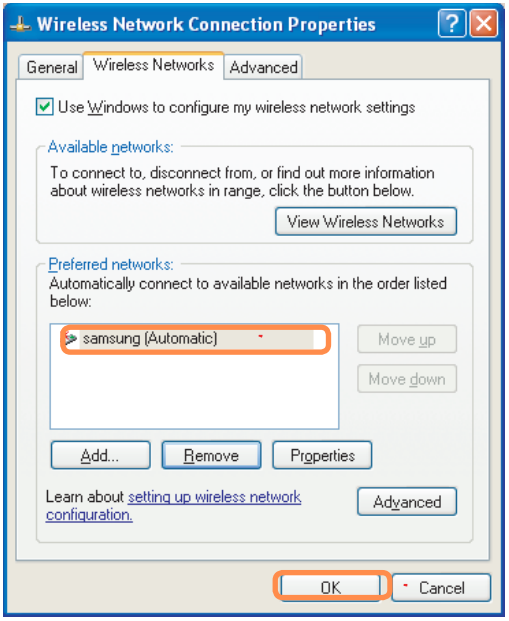
5 In the Wireless Networks tab, click Add.

To prevent a network connection from an unauthorized user, it would be better to configure a network key (encryption key). A network key consists of 5 ~ 13 alphanumeric characters (e.g. magic), or of 10 ~ 26 hexadecimal numbers (a hexadecimal number is represented by numbers ‘0’ to ‘9’ or letters ‘a’ to ‘f’).

6 Enter the network name (e.g. samsung), and unselect ‘The key is provided for me automatically’. Enter the encryption key in the Network key field, and click OK.



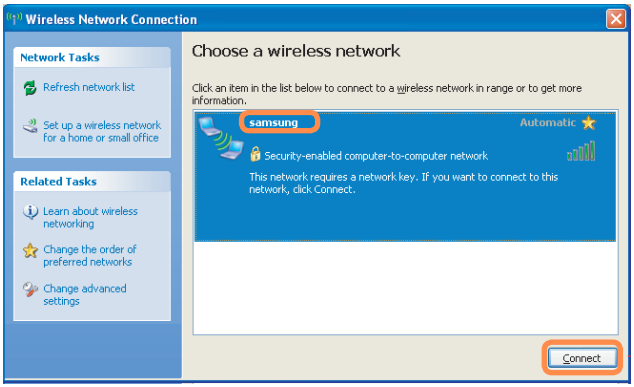
7 Check that the configured network name (e.g. samsung) is in the ’Preferred networks’ item, and click **OK**.



Step 2. Connecting to the configured computer

1 Right-click on the **Wireless Network Connection** icon on the taskbar, and select **View Available Wireless Networks**.

2 Select the wireless network name (e.g. samsung) specified in ”Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 96, and click **Connect**.


Wireless Network Connection
Network Tasks
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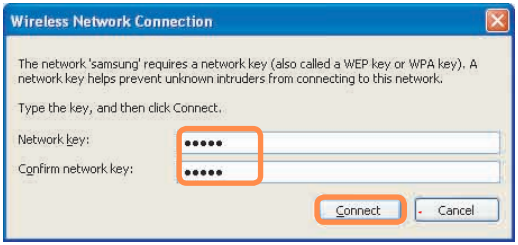
Change advanced settings
Choose a wireless network
Click an item in the list below to connect to a wireless network in range or to get more information.
samsung
Automatic
Security-enabled computer-to-computer network
This network requires a network key. If you want to connect to this network, click Connect.
Connect

3 Enter a cryptographic key in the network key box and click Connect.


Wireless Network Connection
The network 'samsung' requires a network key (also called a WEP key or WPA key). A network key helps prevent unknown intruders from connecting to this network.
Type the key, and then click Connect.
Network key:
Confirm network key:
Connect
Cancel

If the network key is not configured in ”Connecting to computer-to-computer networks (peer-to-peer or ad hoc)” on page 96, just click **Connect**, without any keystrokes.

When connected to the wireless network, the system displays **Connected** in the selected network of the Network Connection window.

Checking the connection status
Move the mouse pointer over the Wireless Network Connection icon on the taskbar, and the connection status is displayed.

Using the Easy Network Manager (Optional)

Easy Network Manager is a program that helps configure the network settings.

Easy Network Manager provides the following features.

- **You can easily configure the network and printer settings.** 99~100
- **You can immediately use the network without having to define new network settings again after moving to another location.** 101
  By configuring the network settings (IP address, printer settings, etc.) for each location, you can immediately access the network without following the network setting procedures each time regardless of your location.
- **You can diagnose the network status.** 102

Network Settings

This section describes the procedures to connect to the Internet by setting up a network. The setting up procedures include procedures to add a printer to the network.

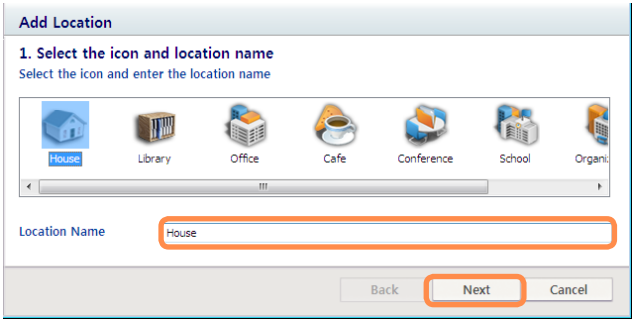
1 To use a wired LAN, connect the LAN cable to the LAN port.

To use the wireless LAN, you have to turn the wireless LAN on first by pressing the **Fn** + F9 keys.
If the wireless LAN is turned on, the **Wireless LAN LED** lights up.

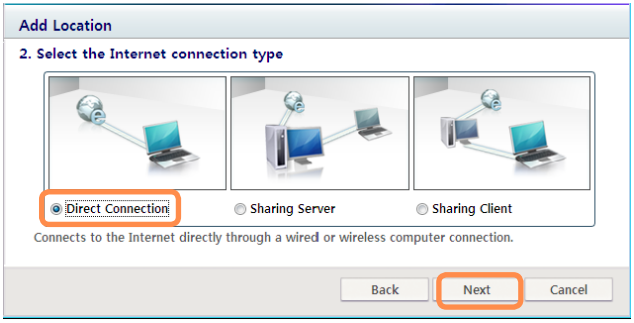
2 Click **Start > All Programs > Samsung > Easy Network Manager > Easy Network Manager**.

3 Click the **Add** button.

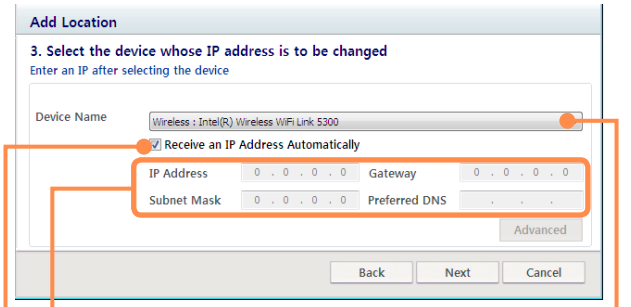
4 Select a network location icon and enter the name of the location (e.g. Home). Click the **Next** button.



5 Select **Direct Connection** and click the **Next** button.



6 Select the LAN device, setup the IP address and click the **Next** button.



Select Device

Select a device to be connected to the Internet. Select either Wired LAN or Wireless LAN.

IP Settings

To use a static IP address, fill in the fields. For the IP address information, ask your network administrator.

Obtain an IP address automatically

Select DHCP to use this option (automatic IP setting).

7 Click **Add Printer** and set up a printer according to the wizard.

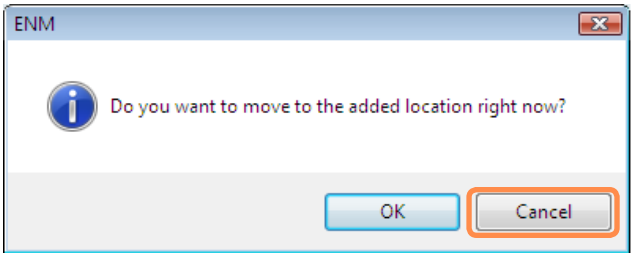
When the printer has been added, click the **Refresh** button, select the newly added printer and then click the **Finish** button.

To not add a printer, click the **Finish** button.

8 When the network settings are complete, the **Do you want to move to the newly added location now?** message appears. Click the **Cancel** button.

An icon for the added location is created. The network settings have been completed.

If you select **OK**, the network settings for the added location are applied.



To add a new location, repeat the procedures from Step 3 above.

Using in Another Location

By configuring the network settings (IP address, printer setting, etc.) for each location, you can immediately access the network in one click, without performing the network setting procedures regardless of your location.

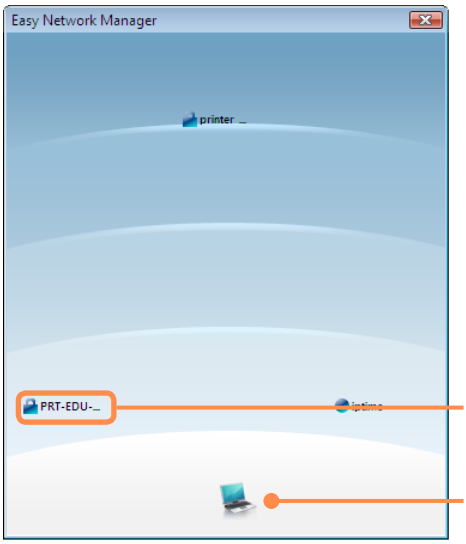
1 Click **Start > All Programs > Samsung > Easy Network Manager > Easy Network Manager** when connected to the Internet.

2 Select an icon that represents the corresponding location from the Saved Locations window and then click **Move**.

3 If the Internet connection is a wired LAN, you can immediately load the settings for the new location and the corresponding network connection information is displayed in the Current Location Information window.

To connect to a wireless LAN, select the **AP Setting** from the menu. The available APs are represented as icons. If you double-click an AP icon to connect to, the computer is connected to the AP through the wireless LAN and you are moved to the corresponding location.

Click the **AP Setting** menu item at the top of the screen and double-click one of the available APs.



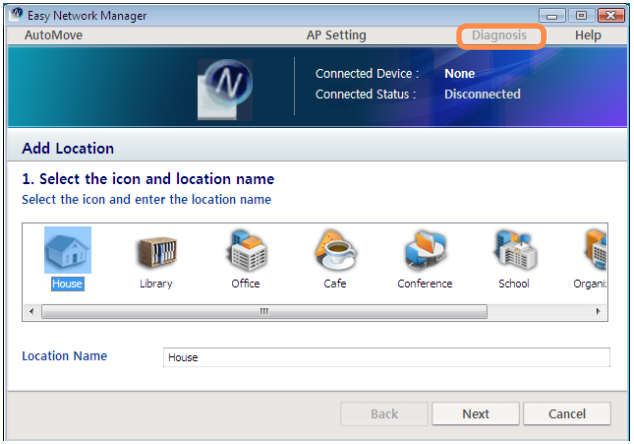
- The closer to the PC icon at the bottom of the screen, the stronger the signal from the AP is, while the further from the icon, the weaker the signal strength is.
- If a network key is required, request the key from your network administrator.
- AP Setting is supported in Windows XP SP3 or higher and Vista only.

Diagnosing the Network Status

You can diagnose the network state and find solutions for why you cannot connect to the network.

1 Launch Easy Network Manager.

2 Select **Diagnosis** from the menu.



3 The Network Connections window appears.

Click **Start** to start the network diagnosis.

4 When the diagnosis is complete, a device with a problem is marked by a **X** mark icon with a description of the problem at the bottom of the window.

Chapter 5.

Using Applications

Introducing Programs	104
CyberLink YouCam (Optional)	108
Samsung Update Plus (Optional)	110
McAfee SecurityCenter (Optional)	112
Using Samsung Magic Doctor (Optional)	117
Reinstalling Software (Optional)	118

Introducing Programs

Using the software supplied with the Samsung computer, you can easily use functions and troubleshoot problems.

Try to use the software after learning about the basic use of the software. For detailed information, refer to the help section of the corresponding software.

The software programs provider may vary, depending on your computer model.
In addition, some pictures may differ from actual product depending on the computer model and software version.

Multi Media Functions

- **CyberLink YouCam (Optional)**
  Using this program, you can easily capture photos and videos with your web camera. CyberLink YouCam makes it more fun to have online video chats or to record videos with live effects. 108

Management Functions

- **Samsung Update Plus (Optional)**
  Samsung Update Plus is a software function that examines and updates the Samsung software and drivers installed on your Samsung computer to the most recent versions. 110

- **McAfee SecurityCenter (Optional)**
  This is a security solution that detects and removes computer viruses and protects the computer from Internet threats. 112

- **Easy Network Manager (Optional)**
  Easy Network Manager is a program that enables you to easily configure the network settings.
  You can configure the network settings for each location and you can also diagnose the network status. 99

- **Samsung Battery Manager (Optional)**
  Samsung Battery Manager is a power management program that provides easy-to-use power management and power saving settings so that the battery usage time can be extended. 136

- **Easy Display Manager (Optional)**
  Easy Display Manager is a program that displays the changed setting on the screen when a setting is changed by pressing the shortcut keys, and enables changing the display mode through the Display Settings window.

Example) The icon that appears when pressing the **Fn** + keys to change the screen brightness.

- **Easy SpeedUP Manager (Optional)**
  This program enables you to select operation mode when you need maximum system performance or low-noise/low power consumption with one-click. 59

  For Windows XP model, Easy SpeedUp Manager function is provided in Magic Keyboard program.

  If you reinstall Windows XP, you have to install the Magic Keyboard program additionally using the System Software Media in order to use this function.

- **MS Live Skydrive (Optional)**
  If you double-click the Microsoft Live icon when the computer is connected to the Internet, you can visit the website that allows you to use free web storage provided by Microsoft.

  If you sign up and log onto the website, you can use the web storage for free.

  For more information, refer to the help center on the website.

- **Easy Resolution Manager (Optional)**
  This program allows you to set a resolution of 1024x768 pixels on a computer that supports a resolution less than 1024x768 pixels.

  You can view the whole picture when running a program or game that supports a resolution of 1024x768 pixels.

  However, when the resolution is set to 1024x768 pixels, the picture on the screen may be distorted.

- **Battery Life Extender (Optional)**
  The Battery Life Extender is a battery power management program that enables extending the battery life. 138

- **Phoenix Failsafe (Optional)**
  Phoenix FailSafe is a program developed by Phoenix Technologies LTD, that enables PC users to protect and track their PC via the FailSafe website when their PC is lost or stolen. For more information, please refer to the online help of the software or the FailSafe website.

Troubleshooting Functions

- **SAMSUNG Magic Doctor (Optional)**

  SAMSUNG Magic Doctor is troubleshooting software provided by Samsung Computer for system diagnosis, and restoring the system.

  The system diagnosis function enables users to diagnose system problems without assistance from others.

- **Samsung Recovery Solution (Optional)**

  Samsung Recovery Solution provides a **Restore Function** that enables you to easily restore your computer to a previous, normal state when a problem occurs with your computer, as well as a **Backup Function** that enables you to easily save your computer's current status and your data.

  For models with an SSD (Solid State Disk), Samsung Recovery Solution is not provided.

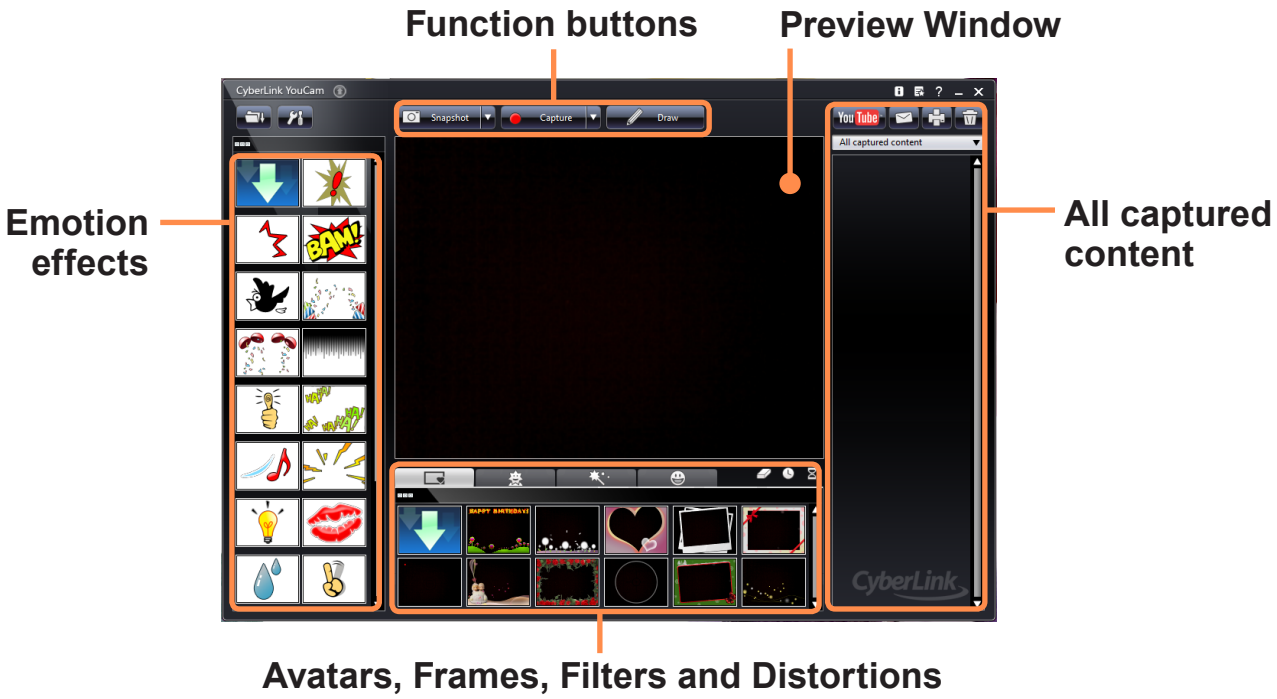
CyberLink YouCam (Optional)

CyberLink YouCam makes it more fun to have online video chats or to record videos with live effects.

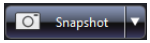
- The program versions described in this manual are subject to change and the screen images and terms in this manual may differ from actual product.
- For more information on how to use the program, refer to the online help.

- Do not take pictures or record video of someone without their permission.
- Do not take pictures or record video in locations where photography is prohibited.
- Do not take pictures or record video in locations where you could violate another person's privacy.

1 Double click the **CyberLink YouCam** icon on the Desktop. Or click **Start > All programs > Samsung > CyberLink YouCam > CyberLink YouCam**.

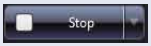


If you click the **settings** button , you can configure the capture, display and document settings.

2 Click the **Snapshot** 

or **Capture** button

in front of the camera. A snapshot is taken or video starts recording.

- To stop a video recording, click the **Stop** 

button. The recording is stopped.
- By applying several effects or avatars to your photos or videos while capturing, you can make your own contents fun and interesting.

3 You can view your captured photos and videos in the **All captured content** window.

You can view a picture or watch a video by double-clicking it.

Samsung Update Plus (Optional)

Samsung Update Plus is software that examines and updates the Samsung software and drivers installed on your Samsung computer to the optimal version.

- To check for updates and update your computer using Samsung Update Plus, your computer must be connected to the Internet.
- The update search result may differ depending on your computer model.

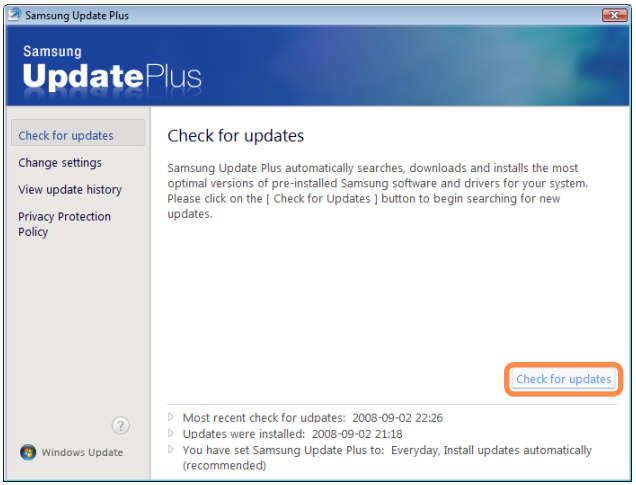
Samsung Update Plus does not provide updates for applications installed after purchasing the computer.

To update the software and drivers

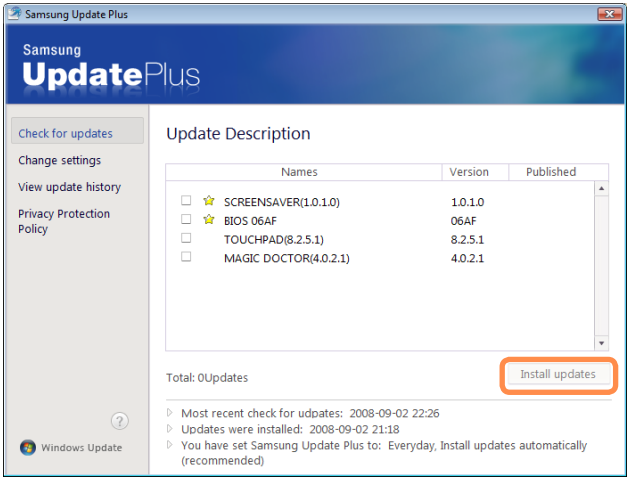
1 Select **Start > All Programs > Samsung > Samsung Update Plus > Samsung Update Plus**.

If this is the first time you are running the program, a window will appear asking you if you agree to the agreement in the window.
Click **Agree** to use this software.

2 If you click on **Check for updates**, new updates are searched for.


Samsung Update Plus
Samsung
UpdatePlus
Check for updates
Change settings
View update history
Privacy Protection Policy
Windows Update
Check for updates
Samsung Update Plus automatically searches, downloads and installs the most optimal versions of pre-installed Samsung software and drivers for your system. Please click on the [Check for Updates] button to begin searching for new updates.
Check for updates
Most recent check for updates: 2008-09-02 22:26
Updates were installed: 2008-09-02 21:18
You have set Samsung Update Plus to: Everyday, Install updates automatically (recommended)

3 If there are available software or driver updates for your computer, the available updates will be listed. Select the required updates from the list and click **Install Update** to start the update. (The update list on the screen may differ depending on the computer model.)

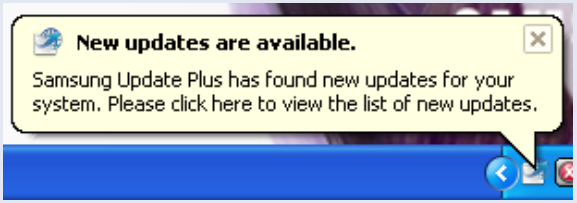


Updates that must be installed separately.

If you select an update item that must be installed separately, a message appears informing you of this. Follow the instruction message to correctly install it.

Automatic update items display

By default, your computer is configured to automatically check for updates. If there is a new update available, this is notified in the notification area. Click the balloon help icon in the notification area. Here you will be able to find the latest available updates.


New updates are available.
Samsung Update Plus has found new updates for your system. Please click here to view the list of new updates.

McAfee SecurityCenter (Optional)

McAfee SecurityCenter (a virus/spyware detection and protection software that includes a firewall function. Hereafter, referred to as “McAfee”) is software that protects your PC from various Internet threats as well as detecting and removing viruses.

- For more detailed information on the program, refer to the McAfee help.
- You can register McAfee when connected to the Internet.
- McAfee software is optional. It may not be supplied for some models or it may be supplied through the McAfee installation icon. When the installation icon is provided, you have to install the program referring to the Installing McAfee section.
- A different anti-virus program may be provided depending on the computer model.

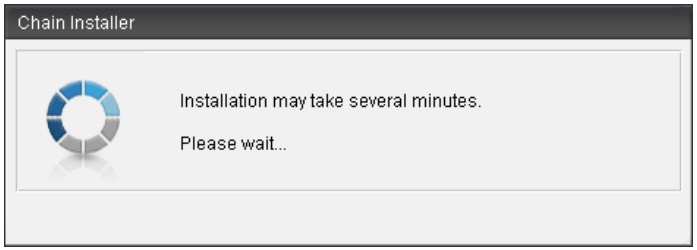
Installing McAfee

For some models, an **Install McAfee Web Essentials** icon is located on the Desktop. In this case, you can install the McAfee software according to the following procedures and then use the McAfee software.

For some models, a **McAfee Security Center** icon is located on the Desktop, since the software is already installed, the installation step is not required.

❶ Double click the **Install McAfee Web Essentials** icon on the Desktop.

❷ The **Chain Installer** window opens and the installation begins automatically. Please wait for a moment.



❸ When the installation is complete, the **Chain Installer** window disappears.

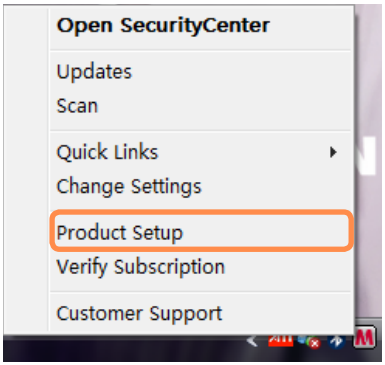
Using McAfee

To use McAfee, user registration is required. If a user is not registered, even though virus inspection is supported, your PC will not be completely protected because the virus information will not be updated with the latest information. The procedures to inspect and heal viruses after the user registration will be described below.

User Registration

1 The **Program Setup** screen appears while booting. Click **Next**.

If the **Program Setup** screen does not appear, right-click over the **McAfee** icon in the Taskbar and then select **Product Setup** from the pop-up menu.



2 The **End User License Agreement** appears.

Check if the country has been correctly selected and then click **Accept**.

3 The **Create New McAfee Account** item appears.

Be sure to fill in all the fields and click **Next**. The **Program Setup Completed** window appears.

If you have already registered with McAfee, click **Login** and enter the registered email address and password to login. The **Program Setup Completed** window appears.

Inspecting and Healing Viruses

The procedures to check if the computer's files or information have been infected by a virus and to heal viruses found by McAfee are described below.

1 Click **Start > All Programs > McAfee > McAfeeSecurityCenter**.

2 Click the **Scan** button on the left side of the program. The **Scan** begins.

At this time, if a virus is found, it is immediately healed during the inspection.

3 If a virus has been found, click **View Results**.

The viruses are listed. Since the corresponding viruses have already been removed, you can use your computer without any concern.

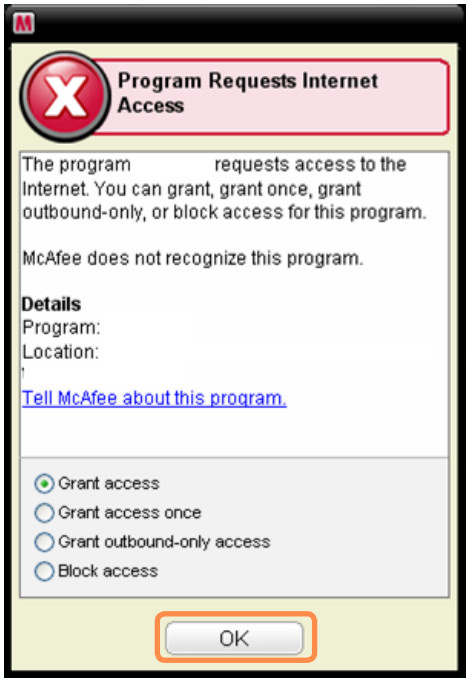
- For possible virus infections (where it is not completely certain), the **Detected** message appears. In this case, the items will be maintained or deleted depending on your decision.
- To deal with new viruses, please always keep McAfeeSecurityCenter up to date. In general, it is automatically updated when connected to the Internet. Alternatively, you can update it manually by clicking **Update** Update after connecting to the Internet.

Configuring the McAfee Firewall

The McAfee Firewall is configured for the product when purchasing the product in order to protect the computer from viruses. However, if the firewall is activated, you may not connect to the network or the Internet properly. In this case, you have to change the settings as follows.

Method 1) When you need to select Allow Access in the Server or Internet Access Request window.

When you connect to a bank, stock market, or gaming website, an access request window appears. In this case, select **Allow Access** in the window and click **OK**. Then you can install the program normally or open the page.


Program Requests Internet Access
The program requests access to the Internet. You can grant, grant once, grant outbound-only, or block access for this program.
McAfee does not recognize this program.
Details
Program:
Location:
Tell McAfee about this program.
Grant access
Grant access once
Grant outbound-only access
Block access
OK

Method 2) When you need to deactivate the Firewall

If you cannot connect to the Internet when using a broadband Internet service, you can connect to the Internal normally if you disable the McAfee Firewall. However, since it may cause a security problem, be careful when doing so.

❶ Double-click the **McAfee Security Center** icon from the Desktop.
❷ Click the **Advanced menu** at the bottom left and click **Configure > Internet&Network**.
❸ Turn the **Internet&Network** at the right to **Off**, set the **Select when to re-enable firewall** to **Never** and then click **OK**.
❹ Click **Home** in the left menu pane and click **Ignore** next to the **'Firewall protection is disabled'** message.

It is recommended activating the Windows Firewall for your computer's safety when you have disabled the McAfee Firewall. To activate the Windows Firewall, click **Start > Control Panel > Windows Firewall > Change Settings > On(recommended)**.

Using Samsung Magic Doctor (Optional)

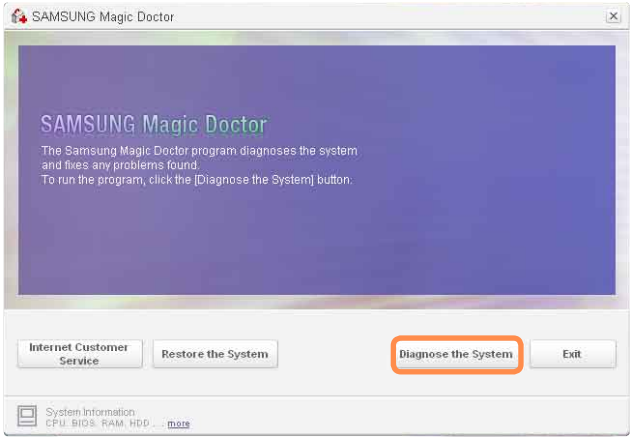
Magic Doctor is troubleshooting software provided by Samsung Computer. A user can diagnose system problems via one-click or by selecting diagnostic items.

The screens used in this manual may differ from actual screens according to the program version.

Diagnosing the System

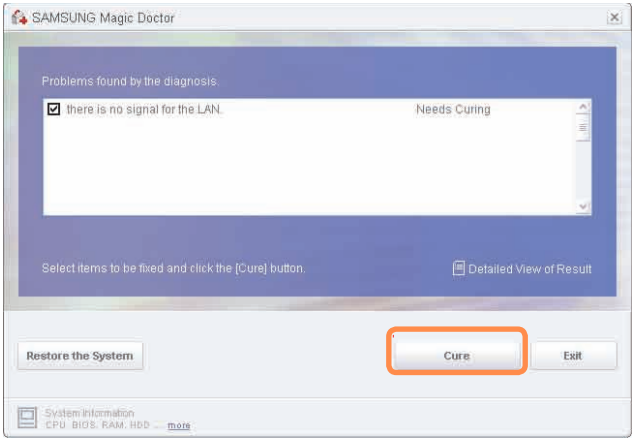
1 Select **Start > All Programs > Samsung > Samsung Magic Doctor > Samsung Magic Doctor**.

2 Click the **Diagnose the System** icon.


SAMSUNG Magic Doctor
SAMSUNG Magic Doctor
The Samsung Magic Doctor program diagnoses the system and fixes any problems found.
To run the program, click the [Diagnose the System] button.
Internet Customer Service
Restore the System
Diagnose the System
Exit
System Information
CPU, BIOS, RAM, HDD ... more

The system status diagnostics start.

3 When the system status diagnostics are complete, the diagnostics result appears.


SAMSUNG Magic Doctor
Problems found by the diagnosis.
there is no signal for the LAN.
Needs Curing
Select items to be fixed and click the [Cure] button.
Detailed View of Result
Restore the System
Cure
Exit
System Information
CPU, BIOS, RAM, HDD ... more

If a problem has been found, click on **Cure** for Samsung Magic Doctor to cure the problem.

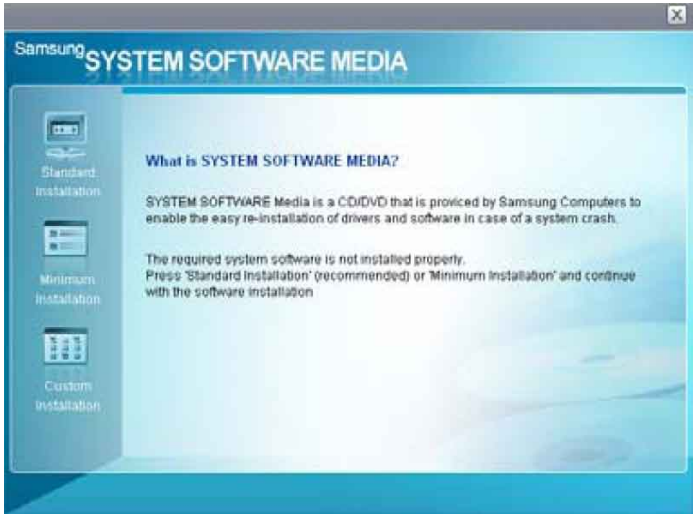
Reinstalling Software (Optional)

If you have reinstalled the Windows operating system, or the system and program do not operate properly, you can re-install the driver and program using the System Software Media.

- When software is not working properly, it is recommended removing the software using the Add or Remove Programs of the Control Panel and reinstalling the software using the System Software Media.
- The System Software Media is supplied as a CD or DVD depending on your computer model.
- To use the System Software Media, the external USB ODD must be connected to the computer. The following descriptions are supposing that the external USB ODD is connected.
- Some model is not supplied System Software Media depending on your computer model.

Running the System Software Media

Insert the **System Software Media** into the CD-ROM drive. The initial screen appears automatically.


Samsung
SYSTEM SOFTWARE MEDIA
Standard Installation
Minimum Installation
Custom Installation
What is SYSTEM SOFTWARE MEDIA?
SYSTEM SOFTWARE Media is a CD/DVD that is provided by Samsung Computers to enable the easy re-installation of drivers and software in case of a system crash.
The required system software is not installed properly.
Press 'Standard Installation' (recommended) or 'Minimum Installation' and continue with the software installation

Standard Installation	This displays a list of drivers or programs that are not currently installed on your computer from the system software Media provided.All necessary components are installed using the factory defaults.
Minimum Installation	This displays the components (driver, Windows programs,etc) that, if not installed, may cause problems with the system performance.You can install only required components.
Custom Installation	You can customize the installation of drivers and programs.

Installing drivers and programs

1 Select **Standard Installation** in the **System Software Media** main screen.

2 The system is scanned to display the drivers and programs that need to be installed.

3 Click **OK**.

The drivers and programs are automatically installed as factory defaults.

4 When done, restart the system.

Chapter 6.

Settings and Upgrade

LCD Brightness Control 121

BIOS Setup 123

Setting a Boot Password 127

Changing the Boot Priority 130

Upgrading Memory 131

Battery 133

Using the Security Lock Port 141

LCD Brightness Control

You can adjust the LCD brightness in 8 levels.

Adjusting LCD Brightness Using Keyboard

Press the **Fn**+ or **Fn**+ to adjust the brightness of LCD.

The LCD brightness has eight levels of degree.

By pressing the **Fn**+ , the LCD gets brighter by one level of degree.

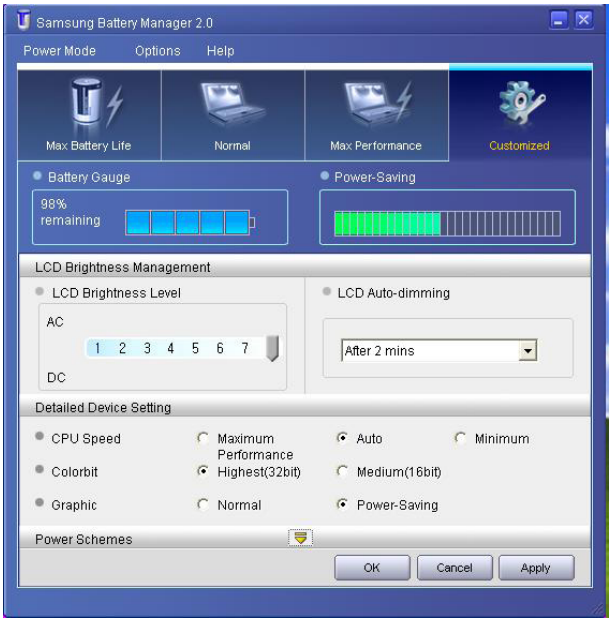
Adjusting LCD Brightness Using Samsung Battery Manager

Appropriate LCD brightness is set for each mode in **Samsung Battery Manager**. In user settings mode, you can select the brightness level.

Click **Start > All Programs > Samsung > Samsung Battery Manager > Samsung Battery Manager.**

(for example, in Customized mode)

In this mode, you can change the brightness and device setting details.



LCD Brightness

The LCD brightness settings for maximum battery mode, general mode, and maximum performance mode in Samsung Battery Manager are not maintained when your computer reboots.

Only the LCD brightness setting in the user settings mode is maintained once you reboot the computer.

For information on the other features of Samsung Battery Manager, see the description on batteries. 136

- **To Maintain the Changed LCD Brightness After Reboot**

  Configure the following settings to maintain the LCD brightness set using the screen adjustment key or **Samsung Battery Manager**.

❶ Turn on the computer. If the SAMSUNG logo appears, press the**F2** key. Then, setup will start.

❷ Change the value of Brightness Mode Control on the Boot menu to User Control.

❸ Press the**F10** key to save the change and complete setup.

- **How to Reduce Battery Consumption**

  Adjust the screen brightness to a darker value or select the maximum battery mode in **Samsung Battery Manager** to reduce battery consumption.

- **Bad pixels of an LCD**

  The LCD may have less than 4 bad pixels but it does not affect the computer performance. This product may have bad pixels of the same level as the products made by other companies.

Caution for Cleaning up LCD

Wipe the LCD from the center to the outside with a soft cloth soaked in a computer-dedicated detergent. If you wipe the LCD firmly, it may have damage.

BIOS Setup

The BIOS Setup enables you to configure your computer hardware according to your needs.

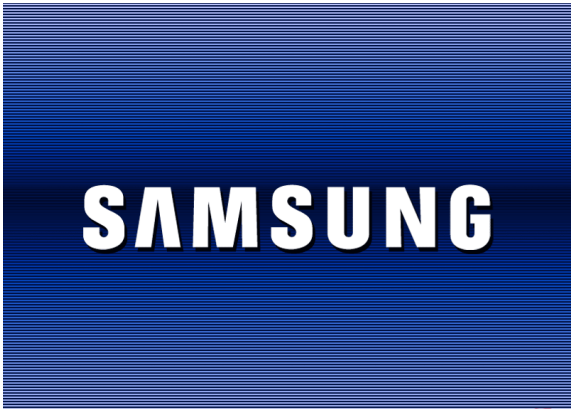
- Use the BIOS setup to define a boot password, change the booting priority, or add a new device.
  Since incorrect settings may cause your system to malfunction or crash, take care when configuring the BIOS.
- The functions of the BIOS setup are subject to change for product function enhancement purposes.

The BIOS Setup menus and items may differ depending on your computer model.

Entering the BIOS Setup

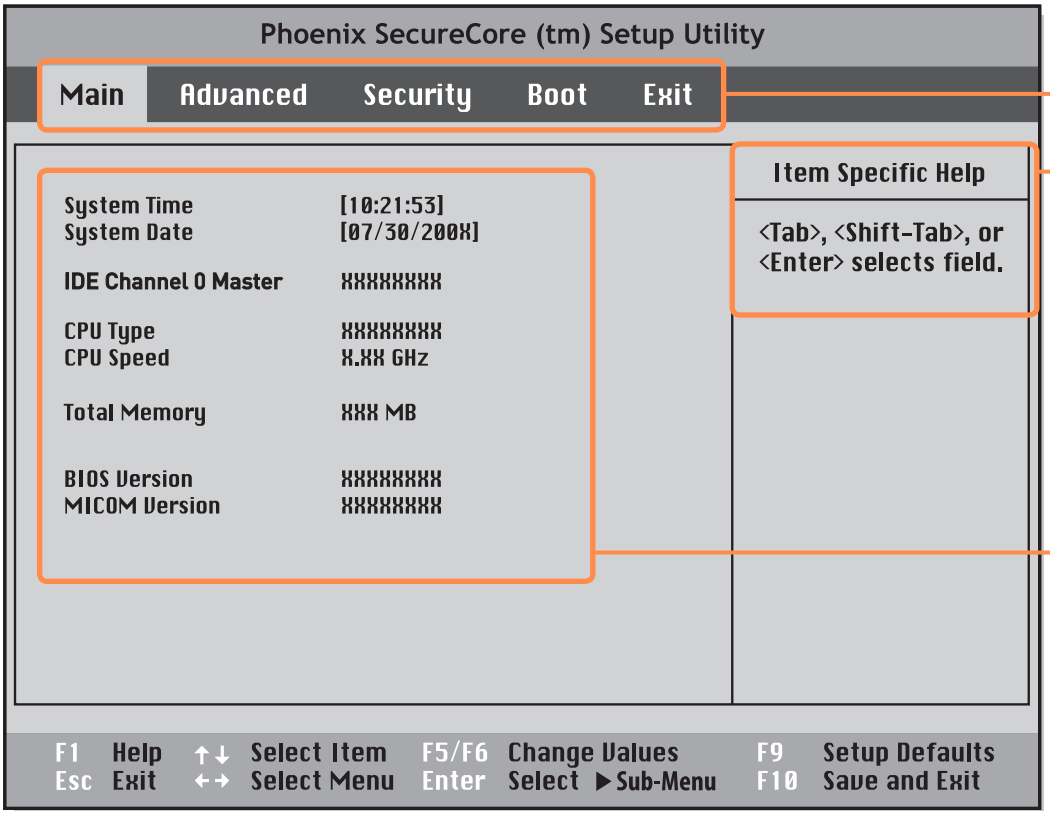
1 Turn the computer on.

2 When the booting screen (SAMSUNG logo) appears, press the **F2** key to enter the BIOS Setup.



Press the **F12** key while the booting screen(SAMSUNG logo) appears, the system will try to boot from the network.

3 After a moment, the BIOS setup screen appears.
The items in the BIOS setup may differ depending on the product.

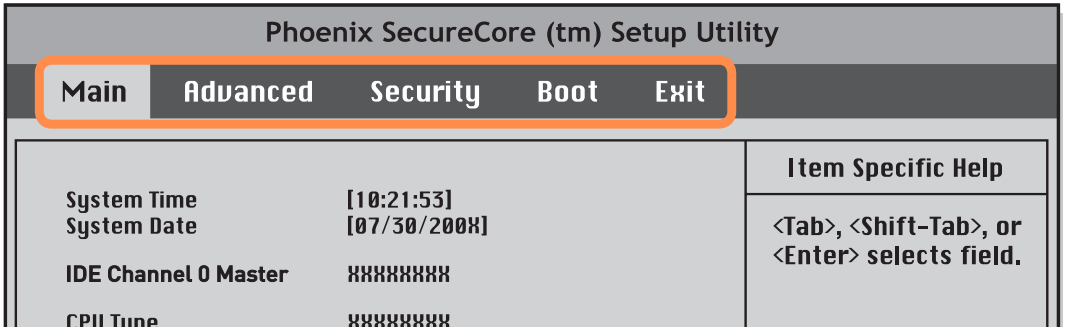


Setup Menu

Help
Help for the selected item appears automatically.

Setup Items

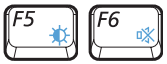
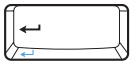
The BIOS Setup Screen



Menu	Description
Main	Used to change the basic system and environment settings.
Advanced	Used to configure advanced functions on your computer for devices and chipsets.
Security	Used to configure security functions, including passwords.
Boot	Used to set the boot priority and other boot options
Exit	Used to exit the Setup either saving the changes or not.

System Setup Keys

In the Setup, you have to use the keyboard.

F1		Press to view the Setup Help.
Up & Down Keys		Press to move up and down.
F5/F6		Press to change the item value.
F9		Press to load the default Setup settings.
ESC		Press to return to a higher level menu or to move to the Exit menu.
Left & Right Keys		Press to move to another menu.
Enter		Press to select an item or to enter a sub menu.
F10		Press to save the changes and exit Setup.

The keyboard image and color may differ from the actual keyboard.

Setting a Boot Password

When setting a password, you have to enter a password to use the computer or enter the BIOS Setup.

By configuring a password, you can restrict system access to authorized users only and protect data and files saved on the computer.

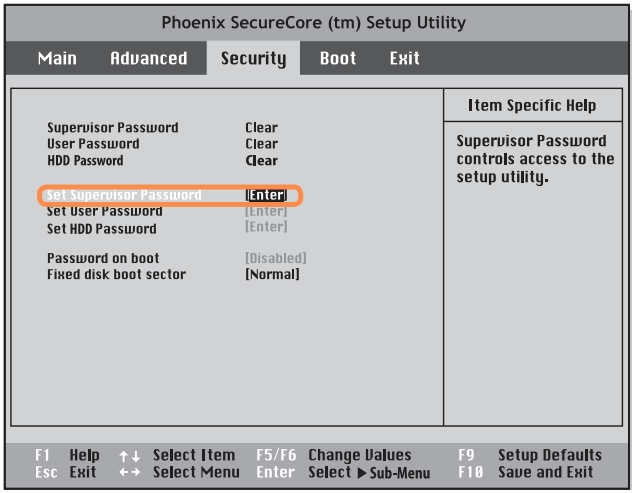
Do not lose or forget your password.

If you have forgotten your password, contact a Samsung service center. In this case, a service fee will be charged.

Setting a Supervisor Password

A Supervisor Password is required to turn the computer on or to start the System Setup.

When setting a Supervisor Password, users other than a supervisor cannot use the computer.

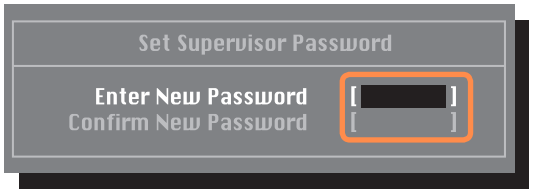

Phoenix SecureCore (tm) Setup Utility
Main
Advanced
Security
Boot
Exit
Item Specific Help
Supervisor Password controls access to the setup utility.
Supervisor Password Clear
User Password Clear
HDD Password Clear
Set Supervisor Password [Enter]
Set User Password [Enter]
Set HDD Password [Enter]
Password on boot [Disabled]
Fixed disk boot sector [Normal]
F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit

1 Select the **Security** menu in the BIOS Setup.

2 In the **Set Supervisor Password** item, press <**Enter**>.

3 Enter a password, press <**Enter**>, re-enter the password for confirmation, and press <**Enter**> again.

The password can be up to 8 alphanumeric characters. Special characters are not allowed.



4 When a message confirming the password configuration appears in the **Setup Notice** window, press <**Enter**>.

The supervisor password has been set.

The supervisor password is required to turn the computer on or to enter the BIOS Setup.

Setting a User Password

The User Password restricts access to the computer or for configuring the BIOS Setup, like a Supervisor Password. However, the Setup items that can be configured with a User Password are restricted, unlike for a Supervisor Password.

Before configuring a user password, a **supervisor password** must have been configured. Deactivating the supervisor password also deactivates the user password.

In the **Set User Password** item, press <**Enter**> and complete the procedures from Step 3 of Setting a Supervisor Password.

Setting Up a Boot Password

To setup a boot password, the administrator password (**Set Supervisor Password**) should be set in advance.

Set the **Password on boot** item to **Enabled**.

Once a boot password is set, you have to enter a password to boot up the computer.

Setting up a Hard Disk Drive Password (Optional)

A supervisor password must be set using the Set Supervisor Password menu.

If you set a password for a hard disk drive, it cannot be accessed from another computer.

Press <**Enter**> in the **Set HDD Password** item and define a password as described in Step 3 of the Setting up the Supervisor Password.

The hard disk drive password setting function is not provided for some models.

Changing the hard disk drive password

For security purposes, you can only change a hard disk drive password after restarting the computer by pressing the computer **Power** button.

If you cannot change the hard disk drive password or the **HDD Password Frozen** message appears when entering the BIOS Setup and then selecting **Security > HDD Password**, press the **Power** button to turn the computer on again.

Deactivating the Password

1. Press <**Enter**> on the password to be deactivated. For example, to deactivate a supervisor password in the **Set Supervisor Password** item, press <**Enter**>.
2. In the **Enter Current Password** item, enter the currently configured password and press <**Enter**>.
3. Leave the **Enter New Password** item field empty, and press <**Enter**>.
4. Leave the **Confirm New Password** field empty, and press <**Enter**>.
5. In the **Setup Notice** window, press <**Enter**>.

   The password is deactivated.

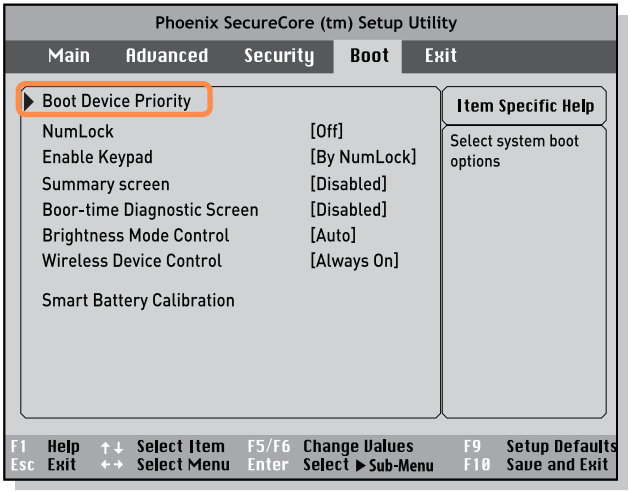
Changing the Boot Priority

This computer is configured to boot from an external-type ODD first.

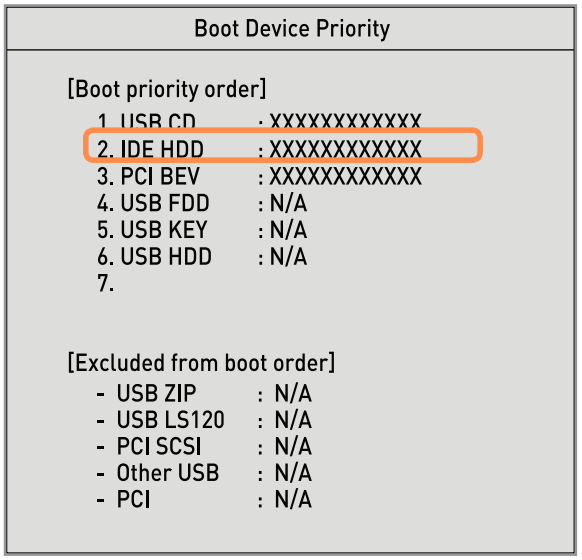
This chapter describes how to change the boot priority so that the computer boots from the hard disk drive first.

1 Select the **Boot** menu in the BIOS Setup.

2 Press <**Enter**> on the **Boot Device Priority** item.



3 Press the down key (↓) to move to the **IDE HDD** item and press the **F6** key to move up to the top item.


Boot Device Priority
[Boot priority order]
1. USB CD : XXXXXXXXXXX
2. IDE HDD : XXXXXXXXXXX
3. PCI BEV : XXXXXXXXXXX
4. USB FDD : N/A
5. USB KEY : N/A
6. USB HDD : N/A
7.
[Excluded from boot order]
- USB ZIP : N/A
- USB LS120 : N/A
- PCI SCSI : N/A
- Other USB : N/A
- PCI : N/A

4 Press the **F10** key to save the settings and exit Setup.

The highest boot priority device is now set to the Hard Drive.

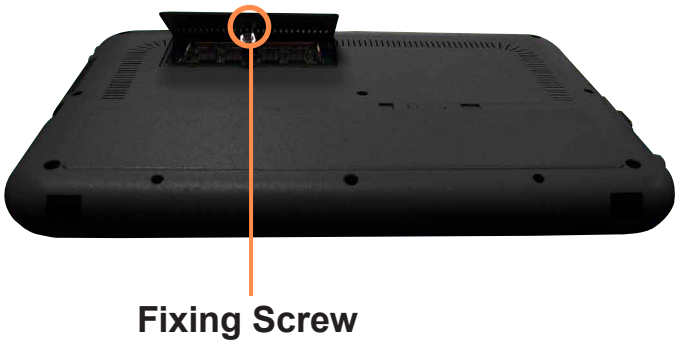
Upgrading Memory

A memory is installed in the memory slot at the bottom of this computer.
The procedures to replace the memory are described below.

- Replace new memory only after shutting the computer down completely. Do not replace memory when the computer is in Sleep mode.
- Disconnect main power plug and remove the battery before continuing.
- Only use the same type of memory as specified in the Product Specification.

Replacing the Memory

1 Remove the screw on the memory compartment cover at the bottom of the computer using a screw driver.

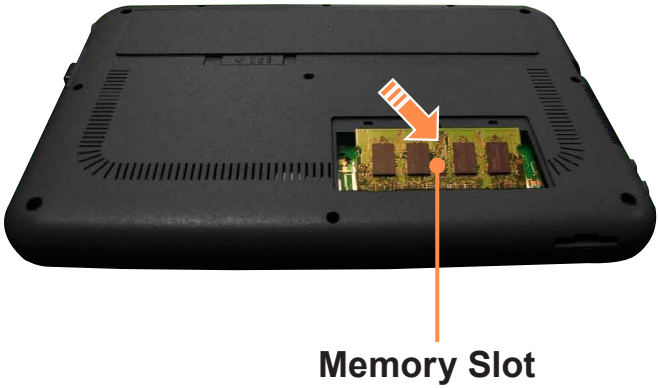


Fixing Screw

2 Pull the memory module latches outward. The memory module will pop up.

Remove the memory module out at an angle of 30 degrees.

3 Insert a new memory module into the memory slot at an angle of approximately 30 degrees aligning it to the angle of the memory slot.



4 Push the memory module down so that it is completely fixed. If the memory does not fit easily, push the memory module down while pulling the memory module latches outward.

5 Close the memory compartment cover and fasten the screw.

Battery

Please refer to the following instructions when running the computer on battery power without connecting the AC power.

A Lithium-Ion smart battery is supplied with this computer.

Carefully read and follow the precautions printed on the battery before using the battery.

Precautions

Use only chargers specified in the User Manual.

Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.

Never cause a short circuit between the battery pack terminals or disassemble the battery pack.

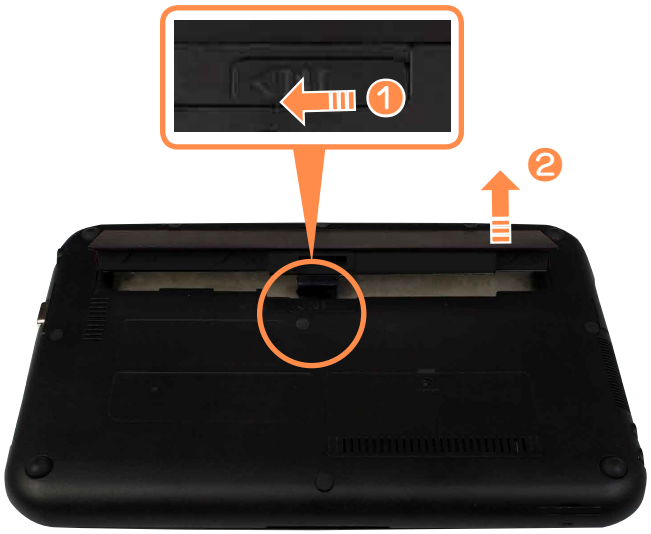
Carefully read and follow the precautions printed on the battery and the safety instructions in the User Manual before using the battery.

Please refer to the system operation environment (178) of this manual and operate and store the battery at room temperature.

Installing/Removing the Battery

1 Shutdown the system, close the LCD panel and place the computer upside down on a flat surface.

2 Slide the center battery latch into the **UNLOCK** position and then remove the battery.



3 To install the battery again, slide the battery into the system.

Charging the Battery

1 Attach the battery and connect the AC adapter to the DC-in jack of the computer.

The battery will then start charging.

2 When charging is complete, the Charge LED turns green.

Status	Charge LED
Charging	Amber
Charging complete	Green
AC adapter not connected	Off

Measuring the Remaining Battery Charge

You can view the battery charge status by completing the following procedures.

To use the shortcut key to view

Press the **Fn** + keys on the keyboard. The remaining battery charge (%) will displayed for a moment.

You can only view the charge status in this way when Easy Display Manager is installed on your computer.

Battery Warning

- You will hear an alarm when the remaining battery charge reaches below 10%.

  In this case, connect the AC adapter or turn off the computer and install a fully charged battery.
- If the battery residual amount is 3~5%, the computer automatically shuts down after saving the data. The battery residual amount may vary depending on the computer model.

Battery Usage Time Information

A battery is an expendable supply, so when using it over a long time, the capacity/battery life is shortened. If the battery life is reduced to under half of its initial time, we recommend purchasing a new battery.

For long periods of not using the battery, keep the battery discharged. This extends the battery life time.

Extending the Battery Usage Time

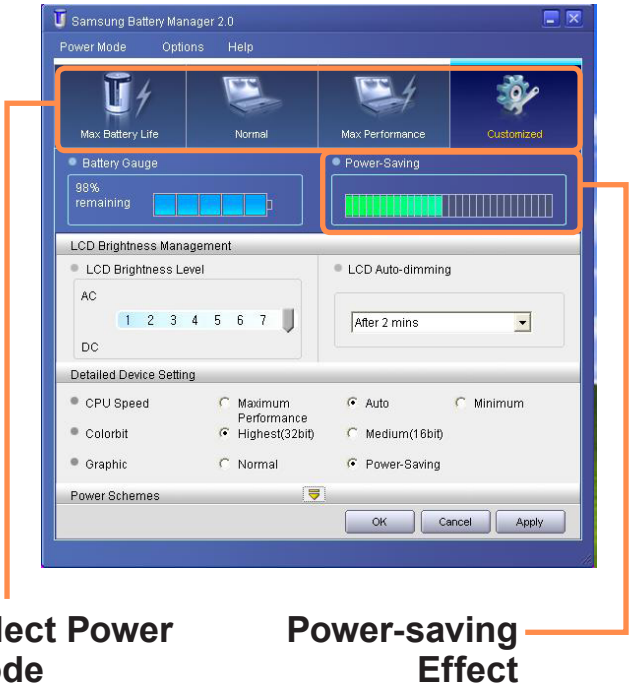
Decreasing the LCD Brightness

Press the **Fn** + keys on the keyboard to decrease the LCD brightness to extend the battery usage time.

Using Samsung Battery Manager

Battery Manager is a management program that allows you to use the battery efficiently. You can select the optimized power mode depending on the system environment.

Click **Start > All Programs > Samsung > Samsung Battery Manager > Samsung Battery Manager**.



Maximum Battery Mode

This mode is appropriate for the environment that requires maximum battery lifetime. The system performance may be degraded in this mode.

General Mode

This mode is appropriate for the regular environment and it optimizes the performance of the system and battery.

Maximum Performance Mode

This mode is appropriate for the environment that requires maximum system performance. The battery life may get shorter in this mode.

User Settings Mode

This mode allows you to configure the detailed settings. You can set LCD brightness, power status, and color quality.

What is the Power-saving Effect?

This product displays the battery life in each power mode. The higher the power saving effect increases, the longer the graph bar is displayed.

When Using Games or Multimedia

The system may not operate properly in maximum battery mode. It is recommended to connect the AC adapter to the system or to use the system in general mode.

Usage Mode of Samsung Battery Manager

- The maximum battery mode optimizes the system operation speed to increase the battery run time, so the program execution time may get longer.
- If you change the power settings, the properties in **Power Options** window will also be changed.
- Complete, install Samsung Battery Manager using the **System Software Media** in order to use the general mode.

Disabling Unused Devices

If you turn off unused devices, battery lifetime will improve.

1. Click Device Manager from **Start > Control Panel > Performance and Maintenance > Systems > Hardware** tab.

2. Right-click the devices that you are not using and select **Disable**.

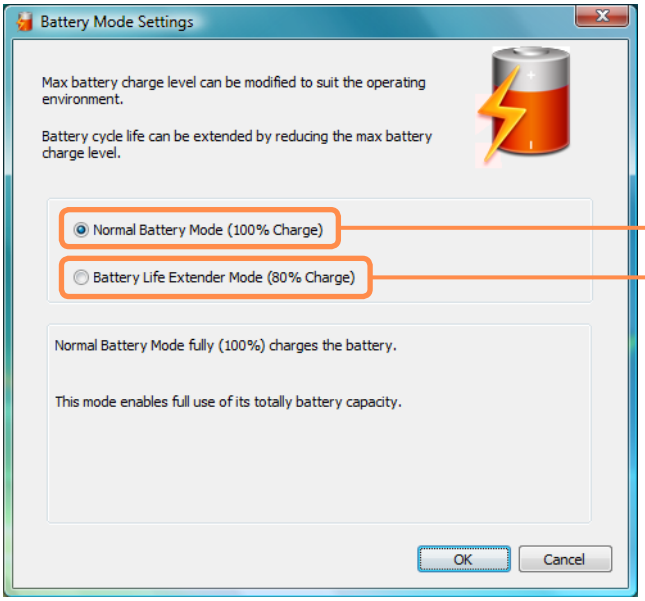
Extending the Battery Life (Optional)

The Battery Life Extender is a battery power management program that enables extending the battery life. Users can change the settings depending on their requirements.

> The Battery Life Extender is optional and may not be supplied depending on the model.

1 Click **Start > All Programs > Samsung > Battery Life Extender > Battery Life Extender**.

2 When the following screen appears, select a mode and click the OK button. You can use the battery in the selected mode.


Battery Mode Settings
Max battery charge level can be modified to suit the operating environment.
Battery cycle life can be extended by reducing the max battery charge level.
Normal Battery Mode (100% Charge)
Battery Life Extender Mode (80% Charge)
Normal Battery Mode fully (100%) charges the battery.
This mode enables full use of its totally battery capacity.
OK
Cancel

Battery Normal Mode

Battery Life Extension Mode

Battery Life Extension Mode

Battery Normal Mode	This mode maintains 100% of the battery charge when using the computer on AC power. In this case, although the battery use time increases, the battery life is reduced.
Battery Life Extension Mode	This mode maintains 80% of the battery charge when using the computer on AC power. In this case, although the battery use time decreases, the battery life is extended.

Press the F2 key when the Samsung logo appears in the booting sequence to enter the BIOS Setup, select **Advanced > Battery Life Cycle Extension**, and set it to **Enable**. Then you can use the battery life cycle extension mode.

Using the Battery Calibration Function

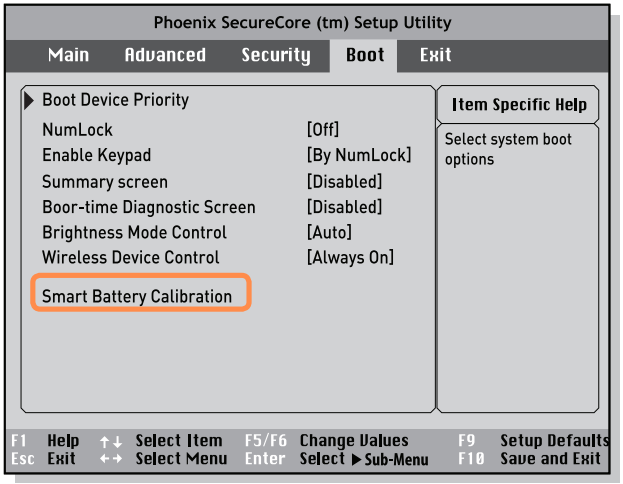
When charging/discharging the battery repeatedly for a short time only, the battery usage time may be reduced by the difference between the actual battery charge and the remaining charge display.

In this case, the actual battery charge and the remaining charge display will be the same by discharging the battery completely using the Battery Calibration function, and then recharging it again.

1 Disconnect the AC power adapter after turning off the computer.

2 Restart your computer and press the **F2** button when the Samsung logo appears, to start the BIOS Setup.

3 Move to the **Boot > Smart Battery Calibration** item using the direction keys and press <**Enter**>.



4 Highlight **Yes** in the **Battery Calibration Confirmation** window and press <**Enter**>.

The Battery Calibration function is activated and the battery is forcefully discharged. To stop the operation, press the <**Esc**> button.

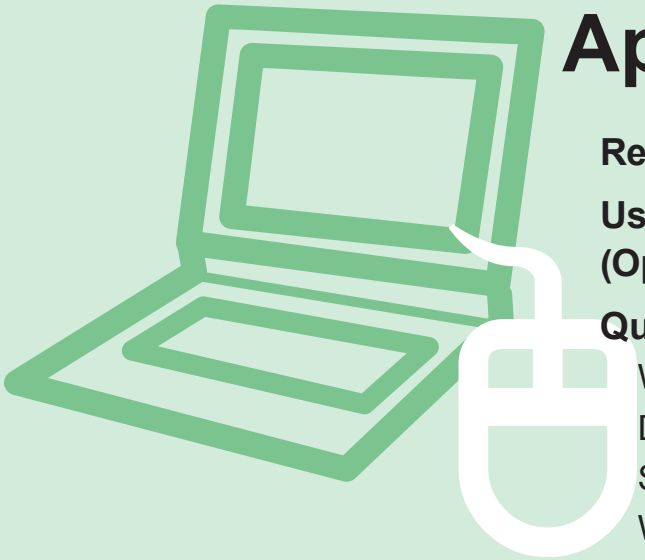
This operation requires 3~5 hours depending on the battery capacity and the remaining battery charge.

Using the Security Lock Port

You can connect a Kensington lock to the Security Lock port to prevent your computer from being stolen when you have to use the computer in a public place.

To use this feature, you have to purchase the Kensington lock additionally. To use the Kensington lock, refer to the product manual.

Tie the Kensington lock cable to a fixed object and install the other end of the cable to the Security Lock port.



Chapter 7.
Appendix

Reinstalling Windows XP (Optional) **143**

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Reinstalling Windows XP (Optional)

You can reinstall Windows using the System Recovery CD when Windows does not work properly.

- A System Recovery CD may not be supplied depending on your computer model.
- To reinstall Windows when Windows does not boot, refer to page 146.
- To reinstall Windows using System Recovery Media, an external-type ODD must be connected before turning the computer on. The following descriptions assume that an external ODD is connected.

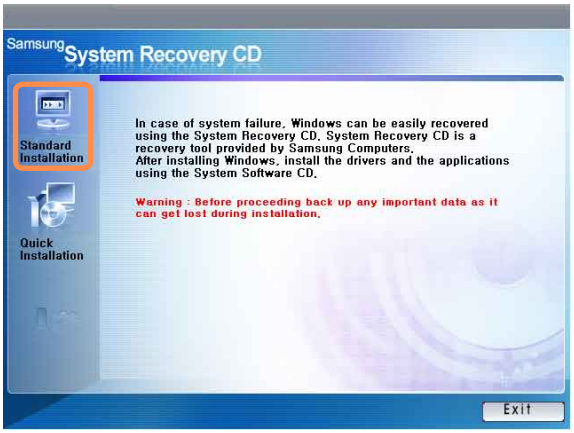
Reinstalling Windows may delete data (files and programs) saved on the hard disk drive. Make sure to backup all important data. Samsung Electronics shall not be held liable for any loss of data.

Reinstalling Windows

Explain installation option as a standard.

1 Insert the system recovery CD into the CD-ROM drive.

2 In the initial screen, click **Standard Installation**.


Samsung System Recovery CD
Standard Installation
Quick Installation
In case of system failure, Windows can be easily recovered using the System Recovery CD. System Recovery CD is a recovery tool provided by Samsung Computers.
After installing Windows, install the drivers and the applications using the System Software CD.
Warning : Before proceeding back up any important data as it can get lost during installation.
Exit

- **Standard installation**
  You can change the settings for partitioning, the installation folder, etc. during the Windows installation. However, reinstalling Windows may delete the data on the hard disk drive such as files, programs, etc. In order to minimize damage from data loss, please remember to always back up data.

- **Quick Installation**
  This re-installs Windows with the user data and the system configuration intact. The user data in the already existing Windows folders may be preserved as the existing Windows folders are overwritten.

3 The description for the standard installation appears. Click **Yes**. The installation starts, and the system will be restarted after a while.

When Quick Installation is selected, Setup proceeds with Step 3 before automatically installing Windows. Quick Installation overwrites the existing Windows version, so that drivers or applications do not need to be reinstalled.

4 After the system has restarted, the message 'Press any key to boot from CD' appears. Do not press any key at this time. After a while the partition configuration screen appears. To not change the partition, press **Enter**.

What is partition configuration?
Partition configuration is a function that divides the hard disk drive into one or several partitions. Note that changing the partition deletes all of the data on the hard disk drive.

5 Select the folder to install the Windows operating system. To delete the previous version of Windows and install in the current folder, press **L** on the keyboard.

If you press ESC to select another folder for the installation, new Windows folders are created causing a risk of dual booting.

6 After the installation process copies the necessary folders for the Windows installation, restart the system, and the message "Press any key to boot from CD" is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.

7 When the **Regional and Language Options** window appears, click **Next**.

8 When a window that requires your name and organization pops up, enter your name and the organization and click **Next**.

9 When the **Date and Time Settings** window appears, click **Next**. Setup will continue.

10 When the system restarts to display Press any key to boot from CD, do not press any key.

When you see the Windows desktop, this means that the installation process is completed.

Remove the system recovery CD and install the **device drivers and applications** from the **system software Media**.

Reinstalling when Windows does not start

When Windows does not start, boot up with the System Recovery CD and from there you can reinstall Windows.

1 Insert the system recovery CD into the CD-ROM drive and start the computer.

2 If the following message appears on the screen, press any key from the keyboard.

Press any key to boot from CD.....

3 Do not press any key at this time. After a while the partition configuration screen appears. To not change the partition, press **Enter**.

4 Select the desired file system (format). To maintain the current file system, press **Enter**.

5 Select the folder to install the Windows operating system. To delete the previous version of Windows and install in the current folder, press **L** on the keyboard.

6 After the installation process copies the necessary folders for the Windows installation, restart the system, and the message “Press any key to boot from CD” is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.

7 Follow the instructions of the Windows XP installation wizard to continue with the installation.

8 When the installation is complete, the computer will restart. When the system has restarted, the **Press any key to boot from CD..** message appears.

Ignore the message.

The system boots and the Windows and Windows Registration screen appears. Register Windows, following the instructions to finish the Windows installation. Remove the System Recovery CD and install the **device drivers** and **application programs** using **Standard Installation** from the **System Software Media**.

Using Samsung Recovery Solution (Optional)

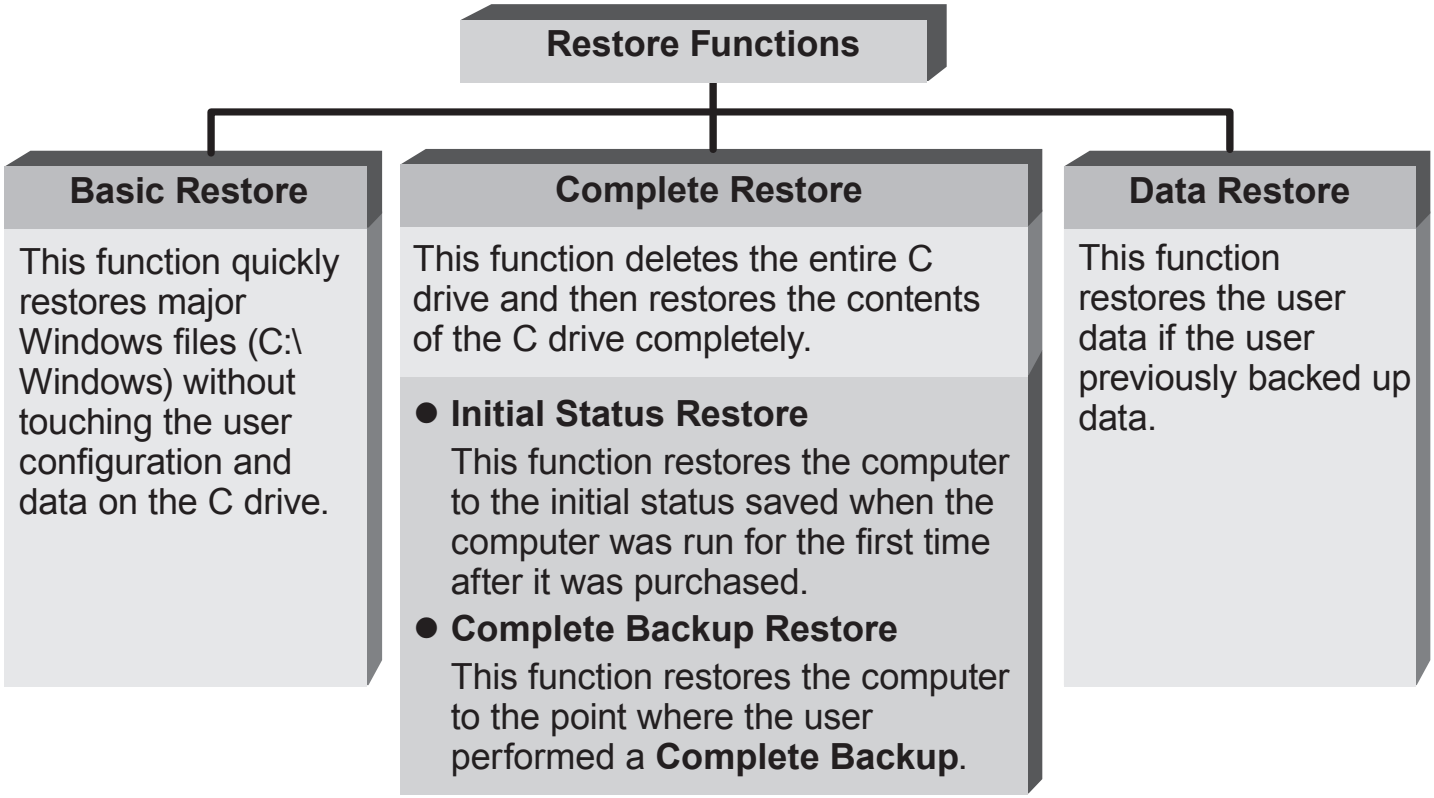
Samsung Recovery Solution provides a **Restore Function** that enables you to easily restore your computer to a previous, normal state when a problem occurs with your computer, as well as a **Backup Function** that enables you to easily save your computer's current status and your data.

- Samsung Recovery Solution may not be provided or the version may differ depending on your computer model and the usage procedures may differ depending on the version. The screen images in this document may differ from actual product.
- For models with an SSD (Solid State Disk), Samsung Recovery Solution is not provided.
- To use the backup and restore function to DVD, an external ODD must be connected. The following descriptions assume that an external ODD is connected.

Samsung Recovery Solution Functions

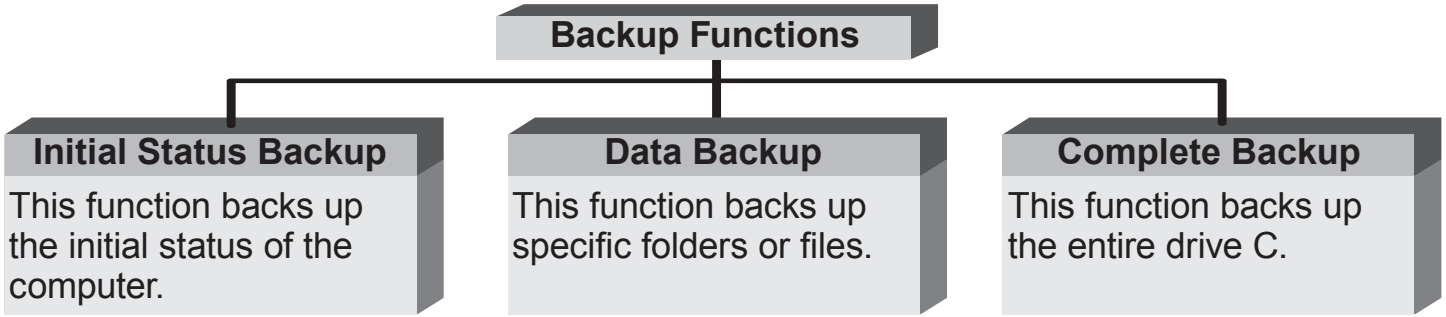
Restore Function

Using this function, you can easily restore your computer to a previous, normal state without using the System Recovery Media or the Windows Installation CD, when your computer is no longer working properly or fails to boot up due to a problem. If you have backed up data, you can restore the backup data.


Restore Functions
Basic Restore
This function quickly restores major Windows files (C:\ Windows) without touching the user configuration and data on the C drive.
Complete Restore
This function deletes the entire C drive and then restores the contents of the C drive completely.
● Initial Status Restore
This function restores the computer to the initial status saved when the computer was run for the first time after it was purchased.
● Complete Backup Restore
This function restores the computer to the point where the user performed a Complete Backup.
Data Restore
This function restores the user data if the user previously backed up data.

○ Backup Function

You can backup the entire C drive or all your data to **another hard disk drive** or **DVD**. You can restore the backed up drive or data using the Restore function.


Backup Functions
Initial Status Backup
This function backs up the initial status of the computer.
Data Backup
This function backs up specific folders or files.
Complete Backup
This function backs up the entire drive C.

Using Samsung Recovery Solution

Not only can you use Samsung Recovery Solution when Windows is running, but also when you are unable to boot up into Windows. Let's learn how to use Samsung Recovery Solution.

Initial Status Backup

If you turn your computer on for the first time, the Initial Status Backup function is performed after registering Windows. This function saves an image of the Initial Status of the C drive to a secure location so that users can restore the computer to the Initial Status using the Complete Restore function. An Initial Status Backup is only performed once immediately after the computer is purchased.

1 If you turn the power on for the first time, the Register Windows screen appears. If you register Windows according to the instructions on the screen, the computer will be restarted.

2 When the computer has been restarted, the User Registration Complete message appears. Click **OK**. The computer will restart.

3 The **Initial Status Backup** screen appears.

To resize the C and D drives, click **Advanced** and partition the disk accordingly. Adjust the partition size using the slide bar and then click **Next**.

> ! The partition disk function is only available when the computer is turned on for the first time and will not be available afterwards. Once you have completed the partitions, you cannot resize the partitions. Therefore partition the disk carefully.

4 The Initial Status Backup is performed to backup the initial status of the C drive to a secure location. This backup image is used for the **Complete Restore** function that restores your computer to the initial status when the computer is not working properly.

5 When the Initial Status Backup is complete, restart Windows.

Quick Restore

Quick Restore enables you to easily restore your computer to a previous, normal state when a problem occurs with your computer. Quick Restore provides Basic Restore and Complete Restore (Computer Initial Status Restore) options.

1 **– When Windows is running:**

Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

– When Windows does not start:

Turn the computer on and press the **F4** key when the boot screen (SAMSUNG logo) appears. After a moment, the computer boots up in Restoration mode and the Samsung Recovery Solution screen appears.

The touch screen function is not supported in this mode even if your model supports a touch screen. In this mode, please use the touchpad or mouse instead of the touch screen.

2 If the Samsung Recovery Solution program is launched for the first time after purchasing the computer, the license agreement screen appears before the restoration is started. Read the agreement and click **Agree** to continue.

3 If the initial menu screen appears, click **Restore**.

If you click **Select by Symptom**, the Select by Symptom menu appears. If you select a symptom, a recommended restoration option will blink. Click the restoration option to continue.

4 Select either **Basic Restore** or **Complete Restore** from the Restore menu.

- A **Basic Restore** restores the major Windows files only while maintaining the user configuration and data on the C drive in a short time.
- A **Complete Restore** deletes the entire C drive and then restores the contents of the C drive.

Run **Complete Restore** if the computer does not work even after **Basic Restore** has been completed.

4-1 If you have selected **Basic Restore**:

In the Basic Restore screen, click the **Next** button. The system will be restarted.

4-2 If you have selected **Complete Restore**:

In the restoration point selection screen, select the restoration point described as 'Computer Initial Status' and click the **Next** button. The system will be restarted.

Since a Complete Restore deletes all user data as well as additionally installed programs, please backup your important data first using the Data Backup function, before running Complete Restore.

5 The computer boots up into restoration mode and the restoration progress message appears. If you click **OK**, the restoration begins. The restoration may take some time, please wait for a moment.

6 When the 'Restart the System' message appears after the restoration is complete, click **OK** to restart the system.

Make sure that the power cord is connected while the restoration is in progress. The first time the computer boots up after a Complete Restore has been performed, the speed of the boot process may be slowed down due to the system optimization process. At this time, do not shut the computer down by force.

User Complete Backup/Restore

A **Complete Backup** saves the complete image of the C drive onto another drive or DVD. A **Complete Restore** restores the image file saved by the Complete Backup onto the C drive. This guide describes the Complete Backup and Complete Restore procedures on the basis of backing up and restoring by using DVD.

Complete Backup

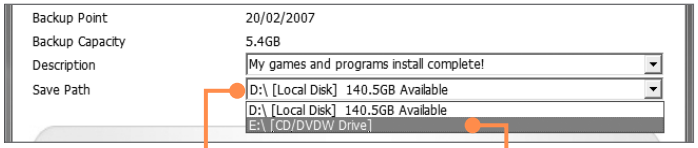
- If you run Complete Backup using a DVD, you can restore the computer even when a problem occurs with the hard disk or when the restoration area is removed.
- To perform a complete backup onto DVD, an external ODD that supports DVD burning must be connected.

1 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

2 When the initial menu screen appears, click **Backup**.

3 Click **Complete Backup** in the backup menu.

4 Enter a description for the backup regarding the current computer status in the Description field so that you can easily recognize it later, and specify the Save Path. If your computer has a DVD-Writer, you can specify the DVD drive as the Save Path.



Select Drive D.

Select the DVD drive.

5 If you click the **Next** button, the system restarts in restoration mode and the **Complete Backup** begins. If you have selected the DVD drive as the Save Path, the “Enter a blank DVD” message appears. Insert a blank DVD and click the **OK** button.

Samsung Recovery Solution supports DVD+R, DVD-R, DVD+RW, and DVD-RW, but does not support CD-R, CD-RW, DVD-RAM, DVD-DL (Dual Layer), HD-DVD, and Blu-Ray.

6 The Complete Backup begins. If multiple DVDs are required, the expected number of DVDs is displayed in the progress screen. Whenever burning a DVD is completed, the “Insert the next DVD” message will appear. Continue the backup according to the instructions.

7 When the ‘Restart the System’ message appears after the backup is complete, click **OK** to restart the system.

○ Complete Restore

1 **– When backing up onto DVD**

Turn the computer on and insert the backup DVD into the DVD drive.

If there are multiple backup DVDs, insert the first DVD.

– When backing up to another drive

Proceed to Step 2.

2 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

3 When the initial menu screen appears, click **Restore** and then click **Complete Restore**.

4 Select a **Complete Backup** restoration point in the restoration point selection screen and click the **Next** button. The system is restarted.

5 The restoration progress message appears after the computer boots up in restoration mode. If you click **OK**, the restoration begins.

If multiple DVDs have been used for a Complete Backup, whenever burning a DVD is completed, the “Insert the next DVD” message will appear.

6 When the ‘Restart the System’ message appears after the restoration is complete, click **OK** to restart the system. The Complete Restore has been completed.

User Data Backup/Restore

Data Backup enables you to save specific files or folders onto another drive or DVD. **Data Restore** enables you to restore data using the data saved by a Data Backup when data is lost. This guide describes the Backup and Restore procedures on the basis of backing up and restoring by using DVD.

❍ Data Backup

1 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

2 When the initial menu screen appears, click **Backup** and then click **Data Backup**.

3 In the data selection screen, select either **Basic Selection** or **Select from all**, select a folder or file to be backed up, and then click the **Next** button.

4 Enter a description for the backup in the **Description** field so that you can easily recognize it later and specify the **Save Path**. If your computer has a DVD-Writer, you can specify the DVD drive as the Save Path.

If you have specified a hard disk drive or a removable disk as the Save Path, the **SamsungRecovery\SamsungData** folder is created on the corresponding drive (e.g. D:\) and the data is saved to the folder. Take care to not delete the folder by mistake or on purpose.

5 If you click the **Next** button, the Data Backup begins. If you have selected the DVD drive as the Save Path, the “Enter a blank DVD” message appears. Insert a blank DVD and click the **OK** button.

6 The “Backup is completed” message appears.

Data Restore

1 **– When backing up onto DVD**

Turn the computer on and insert the backup DVD into the DVD drive.

– When backing up to another drive

Proceed to Step 2.

2 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

3 When the initial menu screen appears, click **Restore** and then click **Data Restore**.

4 Select a backup item to be restored in the backup list and click the **Next** button.

5 Select a folder for the restoration and click the **Next** button. Data Restore begins.

6 When Data Restore is completed, check if the data has been restored to the specified folder.

Questions and Answers

This section provides information on possible problems, solutions and other references for system use.

Windows Related

Q The system does not shutdown properly.

A When the system does not shutdown normally, press and hold the **Power** button until the system manually shuts off. If the Power-Saving Mode is configured into the **Power** button, press and hold for more than 4 seconds to shut the system off. When the system is turned on after such manual shutdown, Scandisk will run to check errors in the system.

Q The system freezes during program operation.

A1 There is an error with the program currently being used. Press the **<Ctrl>**, **<Alt>**, and **<Delete>** keys simultaneously and click **End Task** in the **Windows Task Manager** window.

A2 There is an error with the Windows OS. Reboot the system by using the **Power** button.

Display Related

Q The LCD screen is too dark or too bright.

A Turn on the LCD backlight or adjust the screen brightness. Press **Fn** + to turn on the LCD backlight or press **Fn** + , **Fn** + to adjust the screen brightness.

Q The screen saver disturbs screen viewing during Media Player or video file operation.

A Click **Tools** > **Options** > **Player** and then clear the **Allow screen saver during playback in the Media Center** check box.

Q When I connect an external display and change the settings to display the screen image on both the LCD and the external display by pressing the Fn + key combination, the screen is not displayed properly.

A Press **Fn** + key combination again. If the screen is still not displayed or only part of the screen is displayed by doing this, that means the LCD resolution is too low or too wide and the external display support the resolution. Right-click over the Desktop, select Properties, select the Settings tab and change the resolution to 800 x 600.

Q The Taskbar on the bottom of the screen does not appear when a projector is used as the display device.

A This may happen, if the projector does not support LCD resolution. In this case change the resolution to 800 x 600 (recommended) on your computer.

Q **Switching the MS-DOS command prompt to full screen mode or Windows mode by pressing the <Alt>+<Enter> keys does not operate properly.**

A Pressing the **<Alt>+<Enter>** keys using an USB keyboard, may cause the key input to be recognized as multiple key inputs depending on the keyboard input recognition time. In this case, the MS-DOS command prompt is repeatedly switched to full screen and then to Windows several times. Please press the **<Alt>+<Enter>** keys more quickly, or press the **<Alt>+<Enter>** keys using the system keyboard.

Q **The shortcut icons are not displayed on the screen even if I press the shortcut key.**

A The shortcut icons only appear when the Easy Display Manager program is installed.

Q **The color is strange when the picture is displayed on the connected monitor (or projector).**

A Check the monitor signal cable connection and reconnect the cable.

Sound Related

Q How to install and uninstall the sound driver.

A To install or uninstall the sound driver from this system, please follow the procedures below.

- **Sound Driver Components**

  The sound driver consists of the following 2 components and the 2 components are automatically installed during the installation.

  – **Realtek High Definition Audio Driver**: Realtek High Definition Audio
  – **WOW XT and TSXT Filter Driver**: SRS

- **Uninstalling the Sound Driver**

  To remove the sound driver due to a problem or for an update, follow the procedures below.

  If you do not follow the sequence below, the sound driver may not be removed or the reinstalled driver, or may not work properly.

❶ Select **Start > Control Panel > Add or Remove Programs**.
❷ Remove **WOW XT and TSXT Filter Driver** first.
❸ Remove **Realtek High Definition Audio Driver** and restart the computer.

- **Reinstalling the Sound Driver**

  If there is an already installed sound driver, uninstall the driver according to the procedures above.

  The sound driver is included on the System Software Media.

❶ Insert the **System Software CD-ROM** into the CD-ROM drive.
❷ Select **Sound Driver** on either **Standard Installation** or **Custom Installation**, then the 2 components of the sound driver are automatically installed.

Q How can I configure the Recording Mixer while I am video or audio chatting?

A1 Playback Mixer Settings

❶ Double-click the **Volume** icon in the Taskbar and select **Options > Properties** from the menu.

❷ Select **Realtek HD Audio Input** in the Mixer device field, confirm that the **Microphone** is selected in the Show the following volume controls field, and click the **OK** button.

❸ Select the **Microphone** item in the **Record Control** window and close the window.

A2 Realtek HD Sound Effect Manager Settings

❶ Click **Start > Control Panel > Sounds, Speech, and Audio Devices > Realtek HD Sound Effect Manager**.

❷ Click **Microphone** tab.

❸ Select **Noise Suppression** and **Acoustic Echo Cancellation** and Click **OK**.

Using **Acoustic Echo Cancellation** option keeps the Microphone Volume muted in the Playback Mixer.

Q How can I configure the Recording Mixer while broadcasting music in WinAMP?

A1 Playback Mixer Settings

❶ Double-click the **Volume** icon in the Taskbar and select **Options > Properties** from the menu.

❷ Select **Realtek HD Audio Input** in the Mixer device field, select **Stereo Mix** in the **Show the following volume controls** field, and click the **OK** button.

❸ Select the **Stereo Mix** item in the **Record Control** window and close the window.

A2 Realtek HD Sound Effect Manager Settings

❶ Click **Start > Control Panel > Sounds, Speech, and Audio Devices > Realtek HD Sound Effect Manager**.

❷ Click **Microphone** tab.

❸ Unselect **Noise Suppression** and **Acoustic Echo Cancellation** and Click **OK**.

Q I cannot hear my voice through the built-in microphone.

A This is because the setting is configured so that sound from the built-in microphone to the speaker is muted to reduce the howling sound effect. You can use the microphone recording function normally, even in this state.

When using an external microphone, if you disable the microphone channel mute function of the play mixer, you can hear the sound input into the external microphone through the speaker.

Q I have a trouble with recording after selecting 'Acoustic Echo Cancellation' and unselecting Mute in the Microphone volume of the Playback Mixer.

A This is because the sound from the external microphone is muted by the **Acoustic Echo Cancellation** Algorithm considering the sound as a Acoustic Echo while the recording and playing back is processed at the same time. In this case, select Mute in the Microphone Volume of the Playback Mixer after selecting **Acoustic Echo Cancellation** item.

Wired LAN Related

Q <Wake On LAN> function

A <Wake On LAN> is a function that activates the system from Sleep mode when a signal (such as a ping or magic packet command) arrives over the network (wired LAN).

- **S3 WOL (Wake On LAN)**

❶ Select **Start > Control Panel > Performance and Maintenance > System > Hardware > Device Manager > Network Adapters**.

❷ Double-click the **Marvell Yukon 88E8040 PCI-E Fast Ethernet Controller** item.

The above driver name may be different.

❸ From **Power management** tab, select "**Allow this device to bring the computer out of standby**", then click **OK**. Restart the system.

- If the system wake up from Sleep mode even though there is no received signal, use the system after disabling the <Wake On LAN> function.
- The LAN LED may not be turned off if System is shutdown without disabling the WOL <Wake on LAN> option.
- Connecting a wired LAN while using a wireless LAN may not activate the <Wake On LAN> function. Set the Wireless LAN to Disable to use the <Wake On LAN> function.
- When the computer exits standby/ hibernate mode a message informing 10Mbps wired LAN connection may appear. It is because restoring the network takes about 3 seconds. When the network is restored, it operates in 100Mbps.

Wireless LAN Related

Q I cannot find an AP.

- **Check the Wireless LAN LED.**

A Check if the Wireless LAN LED is on. If off, press the **Wireless LAN On/Off** button **<Fn>+<F9>** to turn it on.

- **Reinstall the driver.**

A Reinstall the driver using the software media.

- **Check the Wireless Zero Configuration (WZC) service.**

A If the “Windows cannot make this wireless connection” message appears while searching for wireless networks, it indicates that a program other than Windows is set to manage the wireless LAN settings.

- **To use the wireless LAN settings using Windows:**

A ❶ Click **Start > Control Panel > Network and Internet Connections > Network Connections > Wireless LAN Connection**, right-click and check if the “Windows manages wireless network settings (W)” option is selected in the **Wireless Network** tab of the **Properties** window. If not, select the option.

❷ Click **Start > Control Panel > Performance and Maintenance > Administrative Tools > Computer Management** and click **Services and Applications > Services**. In the right pane, double-click **Wireless Zero Configuration** and check if the Startup Type is Automatic and the Status is Started.

Q I cannot connect to an AP. (The wireless connection is disconnected frequently.)

- **Check the Network Key.**

A Right-click the **Wireless Network Connections** icon from the **Taskbar** and click **View available wireless networks**. If wireless networks are found, it indicates that the device is operating properly but the network settings may have a problem. Please check the **Network Key** (Encryption Key) and the **AP settings**.

- **Check if there is a device nearby using the same frequency band.**

A1 If there is a device nearby using the same frequency band such as another wireless LAN device, wireless video transceiver, microwave oven, plasma bulb, etc., channel interference may occur. If you experience interference from another device, it is recommended changing the AP channel.

A2 When operating in EEE802.11g mode, if there is a IEEE802.11b device operating nearby, you may experience low data rates or even disconnection as it operates in Hybrid mode.

- **Check the authentication type.**

A A connection may be disconnected after a period of time if the “Use IEEE 802.1x network authentication” option is selected when IEEE 802.1x authentication is not being used.

View the properties of the corresponding AP in the Wireless Network Properties. In the Authentication tab, unselect the “Use IEEE 802.1x authentication in this network” option.

For detailed information on the authentication server, ask your network administrator.

- **Check the AP settings.**

A1 Check if the surroundings are appropriate for a wireless LAN. A wireless LAN connection may be limited by the surrounding environment and distance. Obstacles such as walls and door mats affect the quality of the wireless LAN signal. You have to install an AP in a high, open position far away from any other radio signal sources.

If the AP is excessively far away, or is installed at the end of a building and you are attempting to use the wireless LAN from the other end, you may not be able to use the wireless communication normally because the signal is blocked by obstacles between you and the AP (such as a wall).

A2 Check if the AP operates properly. If the AP is not operating properly, turn it off and on again and try again.

A3 Check if the AP firmware is the latest version. (For more information on the AP firmware, ask the AP manufacturer or your product provider.)

A4 Check if the AP is properly connected to the network. Connect the LAN cable from the AP to a computer and check if the network is connected properly.

A5 Check the **Network Key** (Encryption Key) settings again. If the automatic password converting function (passphrase function) is enabled and the wireless connection is normal but you cannot send data over the connection, please enter the **Network Key** (Encryption Key) manually.

A6 Check the AP settings as follows.

If there are multiple APs running at the same time, check the channel setting of each AP. If the interval between the channels of the APs is narrow, you may experience electromagnetic interference. Set the channel numbers of the APs so that the internals between the channels are maximized. (for example, Ch1, Ch5, Ch9, Ch13) computer.

It is recommended unselecting the Hide option of the AP. SSID (Service Set ID) is a name used to distinguish a wireless LAN from other wireless LANs.

It is recommended using Long Preamble. Preamble is a signal for data transmission synchronization. Although some APs support Short Preamble, there might be a compatibility problem.

Because “Fixed” channel selection is more stable then ‘Auto’ channel selection, “Fixed” channel selection is recommended. It is recommended not using the “Block Any” and “Any Connection Block” functions. Although these functions block connections at the client side when the network name is **Any** or **Blank**, it may cause a compatibility problem.

For more information on the AP settings, see the owner's manual supplied with the AP.

Q Although a connection has been established, I cannot connect to the Internet.

- **Check the TCP/IP settings.**

A If you cannot connect to the Internet but you are connected to an AP, check if the TCP/IP settings are configured properly.

When you are not connected to an AP, an **X** mark appears over the 'Wireless Network Connections' icon in the Taskbar. If you double-click the icon, the Search for Wireless Connections window appears. Reconnect to a wireless network referring to the descriptions of **Connecting to a Wireless LAN** in the Using the Network section.

When you are connected to an AP, an X mark appears over the "Wireless Network Connections" icon in the Taskbar. Double-click the icon and check if the IP address is properly allocated on the Support tab. If the IP address is not properly allocated, the IP address will be displayed as follows; (for example, 169.254.xxx.xxx).

If your network does not support DHCP, you have to manually configure an IP address by asking your network administrator.

In addition, even if your network supports DHCP, the Internet connection may not be available if the DHCP server fails to allocate an IP address to your computer.

Q I have configured both wired and wireless connections with the same IP address, but the network connections do not work properly.

A You cannot use the same IP address for wired and wireless connections. To use only one IP address for both wired and wireless connections, you must disable one of them according to your requirements in Network Connections in the Control Panel.

Q **After installing the Wireless LAN Setting program, the “AEGIS Protocol (IEEE 802.1x)” protocol appears in the [Local Area Connect Properties] window.**

A The protocol is a security authentication protocol that is automatically installed when the Wireless LAN Settings program is installed and does not affect the program operation.

Q **(For Intel PROSet) Although I have turned the wireless LAN off using the Turn Off Wireless LAN button in PROSet, the Wireless LAN LED is still on.**

A This is normal. The Turn Off Wireless LAN button in **PROSet** just turns off the wireless LAN software. The wireless LAN hardware is not affected by this operation.

Q **(For Intel PROSet) After installing PROSet, I cannot manage my wireless network in Windows.**

A When clicking **Use Microsoft Client** in the **Tools** menu of the **PROSet**, you can manage wireless network in Windows.

Thereafter, if you wish to manage your wireless network, click **Activate Intel PROSet/Wireless** in the **Tools** menu of the **PROSet**.

Q **Internet Connection or File Sharing doesn’t work, when I use Internet Connection Sharing or Ad Hoc.**

A You have to register the IP address allocated for Internet Connection Sharing or Ad Hoc as a ‘Trusted IP’ in McAfee SecurityCenter.

Click **McAfee SecurityCenter > Advanced menu > Configure > Internet and Network > Advanced > Trusted and Banned IPs**, and register the IP address or IP address range as a Trusted IP address. The IP address range for DHCP is 10.0.0.1 ~ 10.255.255.254 if not specified.

Q Computer-to-computer(ADHOC) wireless Network connection is established but not detected on the other wireless network.

A To enable peer-to-peer network search under Windows XP SP3 environment, you have to select additional options in the wireless profiles as follows:

❶ Right-click on the **Wireless Network Connection icon** on the taskbar, and select **View Available Wireless Networks**.

❷ Click **Change the order of preferred networks** on the left window.

❸ At the **Preferred networks**, select the peer-to-peer network profile and click **Properties**.

❹ Check **Connect even if this network is not broadcasting** item.

❺ On the **Connection** tab, check **Connect when this network is in range** and click **OK**.

Games and Programs Related

Q 3D game is not executed, or some functions are not working.

A Change the graphic setting of the game to “2D” or “Software Renderer,” then execute the program again.

Q I launched a game right after installing it, and the game is not executed.

A This problem may occur when the game is not compatible with Windows XP. Launch the game again, and it will be executed properly.

Q Fn + Key combination does not work.

A While displaying video of VCD or MPEG, or the display setting is **Dual View**, you cannot toggle display devices. Also the installation of NetWare Client 32 program disables the function of **Fn** + .

Q While playing a game, pressing the Fn + keys does not work or the screen is not properly displayed.

A Some games and 3D application programs may change the display device control. Therefore, pressing the **Fn** + keys may terminate the running program or may display an abnormal screen.

Press the **Fn** + keys before launching a program and do not press them while running the program.

Q Running speed of a game is too slow or fast.

A Change the setting of Power Schemes to “Always On.”

(Click **Start > Control Panel > Performance and Maintenance > Power Options > Power Schemes** tab, then configure the Power schemes field to “Always On.”)

Q Some part of a game image is not displayed or is displayed in black.

A This may happen when running a game designed for DirecX 8.1 or which has 1024 x 768 as the default resolution, such as NHL 2003, MVP Baseball 2003, Special Forces, Hangame, Pmang etc.

Q The picture is not displayed properly for some games.

A Some games may not display the picture properly when the screen resolution is set to 1024 × 600 and the color quality is set to 32 bit.

For these games, set the screen resolution to 1024 x 600 or 800 x 600, and the color quality to 16bit.

Q Game play is not displayed smoothly on the screen.

A For 3D games, the texture data for the 3D screen display is saved to the system memory. If there is insufficient system memory, the data is saved to the hard disk drive and loaded to memory when required. This operation may temporarily stop displaying the picture on the screen.

In this case, lower the game resolution or the screen settings.

In addition, some 3D games, such as Dungeon and Fighter, RollerCoaster Tycoon 3, Special Forces, Universe at War, Transformer the Game etc, take up lots of hardware resources so upgrading system memory to 2G is recommneded.

Bluetooth

Q How to view the Bluetooth help information.

A Double-click the **My Bluetooth Environment shortcut icon** on the **Desktop** to launch the program, and then press the F1 key to view the help information.

Q I cannot find or connect the headset.

A1 If the headset is connected to another device and is currently being used, you will not be able to locate it. In this case, even if you locate the headset, you will not be able to connect it. Disconnect the headset from the device and then try again.

A2 For some headset models, if the headset is connected to the power adapter, the headset cannot be connected through the Bluetooth wireless connection.
Disconnect the headset from the power adapter and try again.

A3 A Bluetooth headset generally provides On/Off and Pairing modes. To connect the headset to another Bluetooth device such as a computer or cellphone, it must be in Pairing mode. Switch the headset to Pairing mode and try again.

In general, a Bluetooth headset in Pairing mode is automatically switched to On/ Off mode after a pre-determined period of time.

Q I have connected the headset, but I cannot hear sound normally.

A1 If the Bluetooth headset and the PC are successfully connected, check if the audio playing device in the Control Panel is set to Bluetooth audio or Bluetooth high-quality audio.

For a mono headset or a hands-free connection, voice communication is only provided when both the playing device and the recording device are set to Bluetooth audio. For a stereo headset, stereo music is only transmitted from the PC when the playing device is set to Bluetooth high-quality audio.

A2 When a Bluetooth microphone is activated or is being used, Bluetooth high-quality audio is stopped. To use the Bluetooth microphone function, set the playing device to Bluetooth audio.

A3 Check if the headset is properly connected and is operating normally.

A4 Check the volume settings of the headset and the computer.

A5 If a multimedia application such as Windows Media Player is running when connecting the headset, the headset may not be connected or recognized properly. Connect the headset first and then launch a multimedia application.

Security Center

Q To change the popup window display settings when connected to the Internet. In the Windows XP SP3 environment, you can decide whether to display a popup window when connected to the Internet, for user convenience and security.

A1 To display most of the popup windows when connected to the Internet:

❶ Click Internet Options in **Start > Control Panel > Security Center > Manage security settings for**.

❷ In the Privacy tab of Internet Properties, clear Block pop-ups.

A2 To display popup windows only from the current site when connected to the Internet:

Place the cursor on the notification area at the bottom of the Internet address bar and right-click to display a menu, from which you can select Temporarily Allow Pop-ups or Always Allow Pop-ups from This Site.

A3 To display popup windows from a particular site:

❶ Click Internet Options in **Start > Control Panel > Security Center > Manage security settings for**.

❷ In the Privacy tab of Internet Properties, click Settings from Block pop-ups.

❸ Enter a URL to want to allow pop-ups into Address of Web site to allow and click Add.

❹ You will find that the entered address is added to the allowed sites list. The next time you connect to the Web site, you will see pop-ups appearing.

When you need to re-block a permitted site, select the Web site address that you want to block from the Allowed Sites and click Remove.

Q When you connect to a Web site, you see the message, "To help protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer" or "This site might require the following ActiveX control" below the address bar.

A Windows XP SP3 blocks unsigned ActiveX controls from being installed when connected to certain Web sites for security reasons. On some Web sites that have no ActiveX controls installed, applications are not started or do not display properly.

In this case, to install ActiveX controls, right-click the notification area to display a menu from which you can select Install ActiveX control.

Q When you see a Windows Security Alert icon appear on the right part of the Taskbar. With the Security Center feature added, Windows XP SP3 checks the Firewall, the automatic updates configuration and installation of virus-checking programs to display a Windows Security Alert icon on the right part of the Taskbar when it judges that the computer is vulnerable to attacks from the Internet. In this case, check the following to install the necessary components.

A1 Set up the Windows Firewall.

When you set up the Windows Firewall, you will be protected from unauthorized access through the Internet or the network.

❶ Click Windows Firewall in **Start > Control Panel > Security Center > Manage security settings for**.

❷ From the General tab of Windows Firewall, select **ON** (recommended).

❸ If you want to allow a certain program or service to gain access to your computer using the Firewall, select and check the program or service that you want to allow access from, in the Exceptions tab of the Windows Firewall. If you want to add a program to Programs and Services, click Add Program and select it.

A2 Set up Windows Automatic Updates.

This automatically downloads and installs critical updates via the Internet to keep your computer up to date.

❶ Click Automatic Updates in **Start > Control Panel > Security Center > Manage security settings for**.

❷ From general tab of Automatic Updates window, select Automatic (recommended).

A3 Keep your computer current with the latest virus updates. (ex: Norton Antivirus) Even when you have installed Norton AntiVirus on your computer, Windows cannot recognize the program until you configure the settings, displaying a Security Alert icon.

When you first use or install Norton AntiVirus for the first time, follow the Registration Wizard steps to configure the registration settings.

To protect your computer from virus attacks with the latest updates, click **Options to display the Norton AntiVirus Options** window. From the left menu of the window, check Run Automatic Protection to select Automatic Protection and check Run LiveUpdate to select LiveUpdate.

A4 Two virus scanning programs on one computer may cause system conflicts. Remove one of the programs from the system.

A5 If Windows does not recognize the existence of an anti-virus program even when it has been installed, your computer could be vulnerable to attacks from the Internet. You should install an anti-virus program that your computer is able to identify.

Check the following programs which Windows can detect and select one from the list.

A list of anti-virus programs that Windows can detect:

- Symantec Norton Anti-Virus
- NetworkAssociates (McAfee)
- TrendMicro
- ComputerAssociates
- Panda
- Kaspersky
- Ahnlabs (AhnLab)

Visit the Microsoft Web site (www.microsoft.com) regularly to check the latest list.

Product Specifications

The system specifications may differ depending on the derived models. For detailed system specifications, refer to the product catalog.

CPU	Intel ATOM™ Processor
Main Memory	Memory type: DDR2 SODIMM
Main Chipset	Intel 945GSE + ICH7M
Hard Disk Drive (Optional)	9.5mmH SATA HDD or 9.5mmH SATA SSD
Graphics	Intel 945GSE (Internal)
Operating Environment	Temperature : -5~40°C for storage, 10~35°C when operating Humidity : 5~90% for storage, 20~80% when operating
Operating Voltage	100 - 240VAC
Frequency	50/60Hz
Output Power	40W
Output Voltage	19VDC 2.1A(40W)

- The weight and dimension listed are approximate values and may vary a bit from the actual product.
- Optional components may not be provided or different components may be provided depending on the computer model.
- The system specifications are subject to change without notice.

Wireless LAN Specifications (802.11a/b/g, 802.11n Card)

Intel 802.11ABG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations
		Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

● Radio Specifications

RF Band	2.4GHz, 5GHz
Supported Channels	Channels allowed per country.
Device	Transceiver
Standard Output Power	MAX 10mW
Modulation Scheme	11a mode : OFDM
	11b mode : DSSS
	11g mode : OFDM
Data Rate (Mbps)*	11a mode** : MAX 54Mbps
	11b mode : MAX 11Mbps
	11g mode*** : MAX 54Mbps
Antenna Type	Built-in Antenna

* The data rate may differ from the real data transmission rate.

** 11a mode is only supported when the device is connected to an IEEE 802.11a device. (e.g. Access Point supporting IEEE 802.11a)

***11g mode is only supported when the device is connected to an IEEE 802.11g device. (e.g. Access Point supporting IEEE 802.11g)

Intel 802.11AGN WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations
		Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

● Radio Specifications

RF Band	2.4GHz, 5GHz
Supported Channels	Channels allowed per country.
Device	Transceiver
Standard Output Power	MAX 10mW
Modulation Scheme	11a mode : OFDM 11b mode : DSSS 11g mode : OFDM 11n mode : MIMO
Data Rate (Mbps)*	11a mode** : MAX 54Mbps 11b mode : MAX 11Mbps 11g mode*** : MAX 54Mbps 11n mode**** : MAX 450Mbps, MAX 300Mbps
Antenna Type	Built-in Antenna

* The data rate may differ from the real data transmission rate.

** 11a mode is only supported when the device is connected to an IEEE 802.11a device. (e.g. Access Point supporting IEEE 802.11a)

*** 11g mode is only supported when the device is connected to an IEEE 802.11g device. (e.g. Access Point supporting IEEE 802.11g)

****11n mode is only supported when it is connected to an IEEE802.11n device (e.g. Access Point supporting IEEE802.11n).

Wireless LAN Specifications (802.11BG Card)

Intel 802.11BG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations
		Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

● Radio Specifications

RF Band	2.4GHz
Supported Channels	Channels allowed per country.
Device	Transceiver
Standard Output Power	MAX 10mW
Modulation Scheme	11b mode : DSSS
	11g mode : OFDM
Data Rate (Mbps)*	11b mode : MAX 11Mbps
	11g mode** : MAX 54Mbps
Antenna Type	Built-in Antenna

* The data rate may differ from the real data transmission rate.

** 11g mode is only supported when the device is connected to an IEEE 802.11g device. (e.g. Access Point supporting IEEE 802.11g)

Realtek 802.11BGN WLAN

- **Device Name for Formal Registration** : Low Power Wireless Device for Wireless Data Communication Systems.

Type		Detailed Specifications
Physical Specifications	Dimensions	30 x 26.65 mm (Width X Height)
	Operating Temperature And Humidity	Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

* This device supports the Wi-Fi wireless LAN security specifications, WPA (Wi-Fi Protected Access).
To connect to a network constructed with a WPA, the appropriate settings for the network are required.
For detailed settings, ask your network administrator.

● Radio Specifications

RF Band	2.4GHz
Supported Channels	The channels allowed for the country.
Device	Transceiver
Standard Output Power	MAX 10mW
Modulation Scheme	11b mode : DSSS
	11g mode : OFDM
	11n mode: MIMO
Data Rate (Mbps)*	11b mode : MAX 11Mbps
	11g mode** : MAX 54Mbps
	11g mode*** : Max. 300 Mbps
Antenna Type	Built-in Antenna

* The data rate may differ from the actual data rate.

** 11g mode is only supported when this device is connected with an IEEE802.11g device (E.g. An Access Point that supports IEEE802.11g).

*** 11n mode is only supported when this device is connected with an IEEE802.11n device (E.g. An Access Point that supports IEEE802.11n).

Atheros 802.11BG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Temperature: Between 0°C and 70°C, Maximum Humidity: 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

● Radio Specifications

RF Band	2.4GHz
Supported Channels	Channels allowed per country.
Device	Transceiver
Standard Output Power	MAX 10mW
Modulation Scheme	11b mode : DSSS
	11g mode : OFDM
Data Rate (Mbps)*	11b mode : MAX 11Mbps
	11g mode** : MAX 54Mbps
Antenna Type	Built-in Antenna

* The data rate may differ from the real data transmission rate.

** 11g mode is supported only when you are connected to an IEEE 802.11g device (e.g. An Access Point supporting IEEE 802.11g).

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Glossary

The Glossary lists the terminologies used in this User Guide. For terminologies other than these, look in Windows Help.

Backup
A way to save the current data to restore it later if necessary. A backup is a way to restore computer data when the data or computer is damaged.

Client
This refers to a computer that uses a shared network resource provided by a server.

DDR SDRAM (Double Data Rate Synchronous Dynamic Random Access Memory)
DRAM is a memory type whose cells consist of a capacitor and transistor manufactured at a low price. SDRAM is a memory type whose performance has been improved by synchronizing the clock with the external CPU clock. DDR SDRAM is a memory type whose performance has been improved by doubling the operating speed of the SDRAM and is widely used nowadays. This computer uses DDR SDRAM.

Device Manager
An administrative tool used to manage computer devices. You can add or remove hardware or update a device driver using the Device Manager.

Direct X
An application interface developed to enable Windows application programs to access hardware devices at a very high speed. Since the operating speed of graphics, memory and sound cards must be very fast to provide high quality video and sound for games, Direct X enables faster control and interaction between applications and hardware devices. By using Direct X, the multimedia performance of Windows has been hugely improved.

Driver
Software that interacts between the hardware and the operating system. An operating system knows the hardware information and controls the hardware. In general, a driver is supplied with the corresponding hardware device.

DVD (Digital Versatile Disk)

DVD was developed to replace CD (compact disk). Although the shape and size of the disc are the same as that of a CD, the capacity of a DVD is at least 4.7GB while the capacity of a CD is 600MB. DVD video is digital unlike VHS (analog) video and supports MPEG2 compression and digital audio. To play a DVD, a DVD drive is required.

Firewall

A security system used to protect an internal network or intranet from external networks

through an authentication procedure.

Hibernation Mode

A power mode that saves all data in memory to the hard disk and turns the CPU and hard disk off. When canceling Hibernation Mode, all application programs that were running are restored to their last state.

Icon

This refers to a small image that represents a file that users can use.

LAN (Local Area Network)

A communications network connecting computers, printers and other devices within a local area such as within a building. A LAN enables all connected devices to interact with other devices on the network. The current LAN uses the Ethernet media access control method developed in the early 1980s. To connect to an Ethernet, a network card called a LAN card, Ethernet card or network interface card is required. To exchange data between computers, a protocol is required besides the hardware equipment. Windows XP uses TCP/IP as the default protocol.

LCD (Liquid Crystal Display)

There are Passive Matrix and Active Matrix LCD types. This computer uses the Active Matrix type LCD called a TFT LCD. Since an LCD is implemented by transistors instead of a cathode-ray tube unlike a CRT, its size can be slim. And because it does not blink, it reduces eye strain.

Network

A group of computers and devices, such as printers and scanners, connected by a communications link. A network can be either small or large and can be connected permanently through cables or temporarily through telephone lines or wireless links. The biggest network is the Internet, a worldwide network.

Notification Area

This refers to the right area of the Taskbar including program icons such as the volume control, the power options and the time.

Power Schemes

This refers to a pre-determined power management option group. For example, you can set the time the computer waits before entering Standby Mode, or before the monitor or hard drive turns off. The settings are saved as a power scheme.

Quick Launch

This refers to a toolbar that can be configured so that you can launch a program such as Internet Explorer or display the Windows Desktop with one click. You can add any icon to the quick launch area of the Taskbar and launch frequently used program by clicking that icon.

Server

In general, a server refers to a computer that provides shared resources for network users.

Share

This refers to setting a resource of a computer such as a folder or printer so that other users can also use it.

Shared Folder

A folder that can be used by other users on the network.

SSD (Solid State Disk)

This refers to a device that saves information to semiconductors unlike a normal hard disk drive (HDD). There are two types of SSD. One saves data to the DRAM and the other saves data to the Flash Memory. Since there are no mechanical parts, an SSD provides a much better performance than an HDD. Especially, a Flash Memory-Type SSD provides high reliability and durability.

Network Administrator

A user who plans, configures and manages network operations. Sometimes, a network administrator is called a system administrator.

Sleep Mode

A power mode that enables computers to save power consumption when they are not being used. When a computer is in Sleep Mode, the data on the computer memory is not saved to the hard disk. If the power is turned off, the data in memory will be lost.

System File

System Files refer to files that are read and used by the Windows operating system. In general, system files must not be deleted or moved.

USB (Universal Serial Bus)

This refers to a serial interface standard developed to replace the conventional interface standards such as Serial and PS/2. While USB 1.1 supports 12Mbps (12 million bits per second), USB 2.0 supports a data rate that is 40 times (480Mpbs) faster than that of USB 1.1. The data rate of USB 2.0 is equivalent to that of IEEE1394. Therefore USB 2.0 is used for A/V devices supported by IEEE 1394 and a 2nd HDD and CDRW that require a high data rate.

Windows Media Player

A multimedia program included with Windows. Using this program, you can play a media file, create an audio CD, listen to a radio broadcast, search and manage media files, and copy files to a portable device, etc.

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